je Itlining Immal,

ILWAY AND COMMERCIAL

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES. [The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2204.-Vol. XLVII.

LONDON, SATURDAY, NOVEMBER 17, 1877.

SUPPLEMENT. | PRICE SIXPENCE. PER ANNUM, BY POST, 21 4s.

IR JAMES H. CROFTS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER. No. 1, FINCH LANE, CORNHILL, LONDON, E.C. ESTABLISHED 1842.

cted in all descriptions of MINING Stocks and Shares (British Extest transacted in an descriptions of ALMING Stocks and Shares (British foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, elmeons, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, Dock Shares.

1938 negociated in Stocks and Shares not having a general market

MINESS in Colliery and Iron Shares, and in the principal Wagon and RESS IN COLLARD. PACTURING COMPANIES of the North of England and Scotland. RESS in all the principal Cotton Spinning Shares. BUSINESS TRANSACTED in all MISCELLANEOUS SHARES (of whatever

description) having London or Country Market Values.

1. H. Crorts, having now established Corresponding Agencies in all HEF Towns of the United Kingdom, is prepared to deal in the various

CHEF TOWNS of the United Kingdom, is prepared to deal in the various test Books and Shares at close market prices.

ACCOUNTS OPENED FOR THE FORTNIGHTLY SETTLEMENT.

[Dil] Price List, issued at 5 P.M., giving latest Quotations up to close of test Aiso, on the lat of every month a List of all Securities currently dealt the state of the current of the list of every month a List of all Securities currently dealt the list of the list of Exchanges, with latest prices, current dividends, at latest prices, current dividends, at latest priced at market price, &c., and every Friday a general List considering prices of the week.

MINES INSPECTED.

MINES INSPECTED.

MINES INSPECTED.

BATTAN. LONDON; SOUTH CORNWALL BANK, ST. AUSTELL.

setil Dralivas in the following, or part:

stella Dralivas in the following, or part:

spledins. 50 Holmbush, 27s. 6d. 50 Parys Moun., 12s. 6d. 50 Port Phillip, 11s. 50 Parys Moun., 12s. 6d. 50 Pary

IN SHARES, AND THE RISE IN TIN.—SPECIAL MANNESS at close prices in Carn Brea, Cook's Kitchen, Dolcoath, East stouth Condurrow, Tincoft, Wheal Agar, Peevor, Grenville, Uny, and Markes H. CROFTS, 1, FINCH LANE, LONDON.

TOREIGN BONDS — ARGENTINE — EGYPTIAN—RUSSIAN, TURKISH, SPANISH, PERU. &c.

PETAL BUSINESS in the above, and Fortnighty Accounts opened on reduce usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

AILWAYS — HOME AND FOREIGN. of the usual cover.

JAMES H CROFTS, 1, FINCH LANE, LONDON.

OUTON SPINNING SHARES.—BUSINESS in all OLDHAM USBARES, and in those of other DISTRICTS.

"SPECIAL BUSINESS in the following SELECTED SHARES:—busing foreaccers, Green Lane, Oldham Twist, Royton, Shaw, Star, and liber, at close market prices.

"In the shares of good Cotton Spinning Companies pay remunerative divisit, all being almost entirely conducted on the Co operative System, with Limited Liability Acts. With a revival in trade the present rate of limited Liability Acts.

Massould be augmented.

JAMES H CROFTS, 1, FINCH LANE, LONDON.

Bankers: City Bank, London; South Cornwall Bank, St. Austell.

ESTABLISHED 1842. R.W. H. BUMPUS, STOCK AND SHARE BROKER, MINING SHARE DEALER,

44, THRHADNEEDLE STREET, LONDON, E.C. ESTABLISHED 1867.

Buss transacted in MINING and COLLIERY Shares of every description.

Spin and Foreign Stocks, Colonial Government Bonds, Railways, Banks, and Missellaneous Shares, and all Securities dealt in on the London Stock Exchange, for INVESTMENT OF SPECULATION.

Bucks Exchange, for INVESTMENT OF SPECULATION.

Buckses and Sales negociated in Unmarketable Stocks and Shares, Speculative Accounts opened for the Fortnightly Settlement.

References given and required when necessary.

A Stock and Share List forwarded free on application.

B. Bride's Welsh Slate and Slab Company (Limited), £2 each fully paid, tal. £2, ex div.

MLG RENVILLE shares should now be purchased for investment. They are suppresent price, and may be expected to go much higher before long. The with the state of the state of

in the SITADES of all the principal HOME and FOREIGN MINES.

Propresent is a most favourable opportunity for INVESTMENT, and those low EMPLOY their SPARE CAPITAL JUDICIOUSLY in the PUR-High of Carefully-Sellected SHARES, can hardly fail to MAKE SPROFITS during the next few months. Reliable information and as to What to Select and What to Avoid may be obtained by communicating the undersigned.

WILLIAM HENRY BUMPUS, SWORN BROKER.
Offices: 44, Threadneedle Street, London, E.C.

The NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

BRULTAFALL (LEAD AND BLENDE) MINING COMPANY (LIMITED).

L BUMPUS has SPECIAL BUSINESS in these Shares, which are recom-

44, THREADNEEDLE STREET, LONDON, E.C.

DIN RISLEY (SWORN), STOCK AND SHARE BROKER,

38, CORNHILL, LONDON, E.C.

38, CORNHILL,

MESSES. PETER WATSON AND CO., 54, OLD BROAD STREET, LONDON, E.C.

BUSINESS in STOCKS and SHARES. RAILWAYS, BANKS, DIVIDEND LEAD MINES, &c. BANKERS: THE ALLIANCE BANK (Limited). A CIRCULAR published MONTHLY. Single Copy, 6d.; Annually, 5s.

COOKE. ALFRED E . STOCK AND SHARE DEALER, 76, OLD BROAD STREET, LONDON, E.C. ESTABLISHED 1853.

DAILY PRICE LISTS of all STOCK EXCHANGE SECURITIES and MINES add at 5 p.m., and forwarded to applicants.

INVESTORS' GAZETTE, published every FRIDAY EVENING in time for post, sent on receipt of postage stamp.

AN INVALUABLE PUBLICATION.

The METAL MARKET, CORNISH MINES, VAN. PATELEY BRIDGE, PANDORA, NORTH LAXEY, LEADHILLS, ROMAN GRAVELS, PARYS MOUNTAIN, D'ERESBY MOUNTAIN, WEST WYE VALLEY, HUNTER, &c. Read the "INVESTORS" GAZEITE," published last evening, and EVERY FRIDAY EVENING. Post free for three months, 2s. 6d. FRIDAY EVENING. Edited by ALFRED E. COOKE.

COOKE'S MONTHLY INVESTMENT LIST. published on the FIRST OF EVERY MONTH, price 6d. each copy.

The MOST NOVEL and CONVENIENT LIST EVER ISSUED.

ALFRED E, COOKE, STOCK AND SHARE DEALER. 76, OLD BROAD STREET, LONDON. ESTABLISHED 1853.

MR. JAMES STOCKER, STOCK AND SHARE BROKER, AND MINING SHARE DEALER, 2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C. [Established 1848.]

BUSINESS in all kinds of STOCK EXCHANGE SECURITIES, BRITISH and FOREIGN MINING, COLLIERY, MANUFACTURING, and other SHARES.

SHARES.

SPECIAL BUSINESS in the following:—

RAILWAYS.—Brighton, Caledonian, Metropolitan, Great Eastern, North British, Great Northern, Great Western, and South Eastern.

FOREIGN B NDS — Egyptian, Mexican, Russian, Peruvian, and Turkish.

TELEGRAPHS.—Anglo-American, Eastern Extension, and Globe.

BRITISH and FOREIGN MINES:—

Aberdaumant, 7s. 3d.

Parys Mountain, 12s. 3d.
Prince of Wales, 5s. 3d.
Penstruthal, 5s. 9d.
Grogwinion, £4.

Roman Grav, £4.

Gorsedd and Merll,
Holmbush. '0s.

Talkerville, £55/2.

Frontino, £3.

Frontino, £3.

Frontino, £3.

Gorsedd and Merll. Holmbush. 20s. Leadhills, £4 18s. 9d. Ladywell, 21s. 3d. Lovell.

N MINES:—
Parys Mountain, 12s. 3d
Prince of Wales, 5s. 3d.
Penstruthal, 5s. 9d.
Roman Grav., £7½.
Rookhope, 23s. 6d.
Tankerville, £5½.
W. Tankerville, £6s. 6d.
Wheal Grenville, £3½.
Wheal Kitty, £2½. Wye Valley. West Wye Valley, £31/4.

Chontales.
Exchequer, 6s.
Eberhardt, £7¼.
Flagstaff, £2 1ls.
Frontino, £3.
Hultafall, £5.
Last Chance, 15s.
Javall, 7s.
N. Zealand Kap., 25s 6d
Port Phillip, 16s. 9d.
Richmond, £8 1ls. 3d.
Tecoma, 6s. 6d. Pandora, 16s.

Assheton, Cambrian, Carn Brea, Chapel House Colliery, Devon Consols, Dolcoath, East Lovell, Glenrov, Glyn, Minera, Pateley Bridge, Plynlimmon, Prince of Wales, Trebeigh Consols, Van, Wheal Crebor, Wheal Newton.— Argentine, Almada, Chicago, Colorado, Don Pedro, Malabar, I.X.L., South Aurora, Yorke Peninsula. COLLIERIES.—Alitami, Chapel House, Cardiff and Swanses, Great Western, New Sharlston, Newport Aberearn, and Thorp's Gawber.

MISCELLANEOUS.—Credit Foncier, Diamond Rock, Ebbw Vale, General Credit, Hudson's Bay, National Steam, Native Guano, and Aquarium Shares.

Transactions, either purchase or sale, for the fortnighly settlement, or for forward delivery on receipt of cover. Market list of prices, and every information furnished.

BANKERS: LONDON AND WESTMINSTER.

MR. T. E. W. THOMAS, SHARE BROKER, 3, GREAT WINCHESTER STREET BUILDINGS, E.C. Established 1857.

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price:

Buyers, Bellers,

Argentine 2 2 24 Minera 28 218 229

| Argentine £ 2 £ | 2½ Minera £18 £20 |
|-------------------------------|---|
| | 21/2 North Laxey 10s 11s. |
| | 214 New Quebrada 2 214 |
| Chontales 8s 10 | |
| | 23/4 Parys Mountain 11s12s. |
| | 7 Pateley Bridge 21/4 31/4 |
| Don Pedro 8s 10s | |
| | |
| | |
| | |
| East Lovell 5s 15s | |
| East Van 3 | 31/4 San Pedro |
| Exchequer Gold 5s 6s | |
| Flagstaff 21/2 | 25/8 Tankerville 47/8 5 |
| Frontino 234 | 3 Pineroft 151/4 161/4 |
| Glenroy 15s 16s. | 6d. Van 32 33 |
| Glyn 5s 10s | |
| Gorsedd and Merllyn 5 | 6 West Chiverton 13 15 |
| Great Laxey 2114 2 | West Pateley Bridge 11/4 11/4 |
| Hingston 5s 10a | |
| Hultafall 5 | |
| | 34 West Wye Valley 3 31/4 |
| Ladywell17s. 6d., 20s | |
| | 3 Wheal Kitty 2 21/4 |
| Llanrwst 234 | |
| | |
| Marke Valley 15s17s. | |
| N.B There are a few mines now | on the market which are certain to have a |

a.B.—There are a few mines now on the market which are certain to have a substantial rise almost immediately. On the other hand, there are several mines selling at prices far beyond their value, and likely to greatly recede before the end of the year.

My clients holding any shares named in the above List will receive, for their guidance, the best information I can possibly obtain for them upon application as above.

OSEPH JOHN PYN STOCK AND SHARE BROKER, AND MINING SHARE DEALER. 6, BISHOPSGATE, LONDON, E.C.

Mr. PYNE having been connected with MINING ENTERPRISH for upwards of FOURTEEN YEARS, and having been a DIRECTOR of MINES in SHROPSHIRE, MONTGOMERYSHIRE, CARDIGANSHIRE, OARNARVONSHIRE, YORKSHIRE, and in VENEZUELA, has had great opportunities of becoming acquainted with this particular branch of industry, and will always he designed with a constitution of the control of the contro portunities of becoming acquainted with this particular branch of industry, and will always be desirous of giving every information in his power to all parties transacting business with him.

ALL DESCRIPTIONS OF SHARES are dealt in including BRITISH and FOREIGN STOCKS, and RAILWAY SECURITIES.

A DAILY SHARE LIST issued, giving latest quotations up to the close

A DAILY SHARM AND A DAILY SHARM AND A DAILY SHARM AND A SATENDED LIST made up to the first of every month of all securities and IN EXTENDED LIST made up to the first of every month of all securities usually dealt in, giving highest and lowest prices for the month, the current dividends, and when payable, with amount of interest calculated at the present market price. Will be forwarded when desired. ME. PYNE DOES NOT ISSUE ANY CIRCULAR.
BANKERS-THE ALLIANCE BANK (LIMITED).

M. THOMAS THOMPSON, JUN., STOCK BROKER, 1, PALMERSTON BUILDINGS, BISHOPSGATE STREET, LONDON, E.C.

Mr. THOMPSON transacts business in every species of Stock Exchange and Mining

Securities. Mr. THOMPSON affords reliable information to investors, and can give, when de-sired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividends

apon present prices.

Mr. THOMPSON'S weekly Circular may be had on application.

R. CHARLES THOMAS, MINING AGENT, STOCK AND SHARE DEALER, 3, GREAT ST. HELEN'S, LONDON, E.C.

Just published, price 10s. 6d., post free NVESTORS' HANDBOOK, containing full and reliable information respecting every Description of Investment.

By CHARLES THOMAS, F.S.A., F.G.S.

Great St. Helen's, London, E.C.

MESSES. A. W. THOMAS AND CO., 10, COLEMAN STREET, E.C.
MINING AGENTS, AND STOCK AND SHARE DEALERS.
"INVESTMENTS AND SPECULATIONS FGK 1877."
Price Sixpence.

TO CAPITALISTS, SHAREHOLDERS, TRUSTEES, INVESTORS-READ

TO CAPITALISTS, SHAREHOLDERS, TRUSTEES, INVESTORS—READ HARP'S INVESTORS—READ THE NOTE MERE Edition ready. Post free.

8AFE INVESTMENTS TO PAY 4 TO 6 AND S PER CENT.

It is a "Safe Guide" to Capitalists and Intending Investors. It contains reliable information upon all Stock and Share Investments: also all the Best Dividend-paying Investments of the day.

8AFE INVESTMENTS IN THE FOLLOWING—
English, Foreign Railways.
Preference, Debenture Stocks.
American Stocks and Bonds.
Bank, Financial, Shares.
Tramway, Telegraph Shares.
Continental Town Bonds.
Municipal Bonds.

Municipal Bonds.

S H A R P'S contains the

CIRCULAR

INVESTMENT contains the amount of Stock and number of Shares in every undertaking. The amount paid up on all Stocks and Shares, Market Prices, Interest Payable at present prices, and when Dividends are declared.

It contains the most reliable information upon British and Foreign Mines. Advice to Shareholders and Intending Investors in Mines, also Market Prices, Latest Reports, Dividends, &c., &c.

BUSINESS in the FOLLOWING MINES-PRICES FORWARDED :-Tolgus Consols. Van. West Chiverton. West Craven Moor. Bodidris. Carron. East Craven Moor. East Van. Ladywell Leadhills Llanrwst Llanrwst.
North Laxey.
Roman Gravels.
Rookhope.
St. Harmon.
Tankerville. Glenroy. Great Laxey.

GOULD SHARP AND CO., STOCK AND SHARE BROKERS, 42, POULTRY, LONDON, E.C.—ESTABLISHED 1852. Bankers: London and Westminster, Lothbury, London, E.C.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON, LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

RERDINAND R. KIRK, STOCKBROKER,
The following are likely to go HIGHER:—Fort Phillip, Parys Mountain, Pestarena, London and California, Sierra Buttes, Don Pedro. Business in all as Buyer or Seller.

OFFERS WANTED FOR—20 South Roman Gravels, 30 Yarmouth Aquavium.
BUSINESS IN—Cardiff and Swansea, Bilson and Crump, Chapel House,
Alltami, Newport Abercare, Thorps' Gawber, Lianrwst, Pately Bridge, Pandora,
Plumas Eureka, Kapanga, Royal Aquarium, Linares, Cape Copper, Leadhills,
and Don Pedro.

MESSRS. W. J. TALLENTIRE AND CO.,

STOCK BROKERS, AND DEALERS IN BANK, TRAMWAY,
MINING, AND MISCELLANEOUS SHARES,
O. CHANGE ALLEY, CORNHILL, LONDON, E.C.,
Transact business in Stock Exchange Securities and Mining Shares of every description, either for immediate cash or the usual bi-monthly settlements, and also afford advice personally or by letter to executors, trustees, capitalists, and investors of every class in the selection of Securities for safe and profitable investment, their experience of the markets, extending over a period of more than 17 years, together with special facilities for acquiring information, enabling them to ant beneficially for clients.

They have established Corresponding Agencies in all the principal towns of the United Kingdom, and are prepared to deal in the various local Stocks and Shares at close prices. Orders per post or telegraph reseive prompt attention.

INVESTORS BHOULD APPLY for a copy of Messrs. W. J. TALLENTIRE and Co.s. Circular, SERT POST FERE. It contains valuable information on Foreign Stock, Railway, Mining, and General Investments.

TO INTENDING INVESTORS AND SHAREHOLDERS.

MESSRS. W. J. TALLENTIRE AND CO., 20, CHANGE ALLEY, CORNHILL, LONDON, E.C., have the following MINING SHARES OFFERS CAN BE MADE, OR PRICES WILL BE FORWARDED:—

| | OFFERS CAN DE MADE, OR IN | TOES WITH DE LOUWEDED!- |
|-----|---|-------------------------|
| 50 | ABERDAUNANT LEAD. | 100 PANDORA LEAD. |
| 00 | BEDFORD UNITED COPPER. | 25 PENNANT do |
| 008 | BODIDRIS LEAD. | 100 PENNERLEY do |
| 50 | EAST CRAVEN MOOR do | 70 ROOKHOPE do |
| 20 | EAST VAN do | 25 ROMAN GRAVELS do |
| 000 | GLENROY do | 70 ROOKHOPE |
| 00 | GREAT WEST VAN do | 15 ST. HARMON do |
| 50 | GREAT HOLWAY do | 50 SOUTH CONDURROW TIN. |
| 100 | HINGSTON DOWN COPPER. | 25 TANKERVILLE LEAD. |
| 40 | HULTAFALL LEAD. | 5 VAN do |
| 10 | LEADHILLS do LOVELL do LLANRWST do MEDLYN MOOR TIN. NORTH LAXEY LEAD. | 60 VAN CONSOLS do |
| 50 | LOVELL do | 10 WEST WYE VALLEY do |
| 01 | LLANRWST do | 20 WHEAL GRENVILLE do |
| 00 | MEDLYN MOOR TIN. | 20 WEST CRAVEN MOOR do |
| 009 | NORTH LAXEY LEAD. | 25 WEST CHIVERTON do |
| 50 | PARYS MOUNTAIN COPPER. | 5 WEST WYE VALLEY do |
| 000 | PENSTRUTHAL TIN. | 25 WHEAL JANE TIM. |
| 100 | PRINCE OF WALES COPPER. | 100 WHEAL CREBOR do |
| | PERKIN'S BEACH LEAD. | |
| - | D 0 11 14 - | |

N.B.-Some of the above will be sold on specially favourable terms to cash pur

GROGWINION LEAD MINE (LIMITED).

MESSRS. H. HALFORD AND CO., STOCK AND SHARE BROKERS, of EXCHANGE CHAMBERS, CHANGE ALLEY, LOMBARD STREET, strongly recommend the above mine as one of the best and safest mining investments. The last dividend was at the rate of 20 per cent. per

WYE VALLEY, WEST WYE VALLEY, RED ROCK, AND SOUTH
CWMYSTWITH LEAD MINES.

These mines have recently improved very much, and good returns of being made. The Lead Market is rising, and shares should be bought at MR. E. J. BARTLETT, STOCK AND SHARE DEALER, No. 30, GREAT ST. HELEN'S, LONDON, E.C.

HOW AND WHEN TO INVEST."-

STOCKS AND SHARES, TELEGRAPHS, TRAMWAYS, RAILWAYS, AND OTHER LEADING SECURITIES. WILLIAM ABBOTT.
10, TOKENHOUSE YARD, LONDON, E.C.

LOCOMOTIVE TANK ENGINES, in fulsh equal to the MAIN LINE LOCOMOTIVES, FOR SALE, on Cash o Deferred Payments.—Apply to— FOX, WALKER, AND CO., ATLAS WORKS, BRISTOL.

TOCK.—HAYWARD TYLER AND CO., of LONDON, have now ready ENGINES, BOILERS, and "UNIVERSAL" STEAM PUMPS, having made extensive alterations in their premises to enable them to keep a stock.

Lectures on Bractical Wining in Germany.

CLAUSTHAL MINING SCHOOL NOTES-No. LI.*

BY J. CLAPK JEFFERSON, A.R.S.M., WH. SC.,

Certificated Mining Engineer. (Formerly Student at the Royal Bergakademie, Clausthal). [The Author reserves the right of reproduction.]

SECTION III. In Bergström's improvement on Schumann's machine the only

In Bergström's improvement on Schumann's machine the only portion of the working which is not automatic is the gradual advance of the boring tool, or rather the cylinder, as the hole becomes deeper. This is performed by the attendant at the machine, and is liable to the great objection that if he advances the cylinder too far the stroke, and consequently the effectiveness of the blow, is greatly lessened, whilst, on the other hand, if he neglect to advance the cylinder there is great danger of the piston striking against the cylinder cover. This defect in boring machines was, perhaps, first remedied in Someiller's machine.

Someiller's bring machine consists of a cylinder 6 centimetres in diameter and 20 centimetres long. The piston, which is driven by compressed air, makes 200 complete strokes per minute. The piston rod is carried through both cylinder covers, the front part, which is of great length, passing through guides in the frame of the machine is provided at its fore end with a socket, into which the borer is fixed. The valve motion is much different from that of an ordinary steam-engine, and is worked independently of the main piston by means of a special engine. This auxiliary engine is fixed on the frame of the boring machine behind this, and has a cylinder 6 centimetres in diameter and 10 centrimetres long. By means of a connecting crank it drives a short cross shaft, to one end of which a bevil wheel is attached. This wheel gears in with a second, fixed on a shaft, which passes longitudinally over the boring machine, and resting on bearers, or on short standards, fixed on the main frame.

The boring machine proper is provided with a valve chest, which

boring machine, and resting on bearers, or on short standards, fixed on the main frame.

The boring machine proper is provided with a valve chest, which communicates with the cylinder by three openings. One of the inlet ports and the exhaust port (which are placed close together) communicate with the back part of the cylinder; the other port, which is placed somewhat more forward, and passes into the front one of the cylinder, keeps the front end of the cylinder in constant communication with the valve chest, which is always filled with compressed air. The valve chest is placed towards the back part of the cylinder. The forward motion of the piston is caused by difference in the total pressure on the front and back side of the piston. For this purpose that part of the piston-rod which passes through the front cylinder cover has a much larger diameter than that which passes through the back cylinder cover. Both entrances of the ports into the cylinder are placed at some distance from the ends of the cylinder, so that there is always a cushion of compressed air between the cylinder cover and the piston.

The reciprocating motion of the slide valve is caused by a cam placed on the longitudinal shaft over the cylinder, and which is driven, as we have before mentioned, by the auxiliary engine, by the intervention of bevil gearing. When the valve is moved forwards compressed air enters through the back ports into the cylinder behind the piston, and drives it forward, causing the blow of the deith against the rock.

wards compressed air enters through the back ports into the cylinder behind the piston, and drives it forward, causing the blow of the drill against the rock. The pressure on the back of the piston amounting to about 209 lbs., and that on the front end of the cylinder about 88 lbs., an effective pressure, therefore, of 121 lbs. drives the tool forward, and a pressure of 88 lbs. brings the piston back. The pressure of the compressed air is usually about 5 atmospheres.

The frame on which the machine rests consists of two beams.

The frame on which the machine rests consists of two beams. 2.7 metres long, 3 centimetres broad, and 5 centimetres deep, placed at a distance of 9 centimetres apart. On the inner side in the centre the frames are notches, in which a worm-wheel, or large screw, works; and on the underside, toward the front end, they are provided with notches into which a forked catch fits.

The gradual forward motion of the cylinder as the bore hole becomes deeper is caused by the above-mentioned screw, which fits into notches in the frame. The screw is attached to, or slides over, the back portion of the piston-rod; the piston-rod can move backwards and forwards through a hole in the centre of the screw, without carrying the screw with it, but it cannot be rotated without at the same time rotating the worm wheel.

On the long longitudinal shaft over the boring machine an eccentric catch is attached (behind the cylinder), which works into a ratchet wheel provided with 16 teeth, which is situated on the back projecting part of the piston, and which must rotate with the ratchet wheel, though the backward and forward motion of the piston is not shared in by the ratchet wheel. During each rotation of the long longitudinal shaft the eccentric catch moves the ratchet wheel through the space of one tooth, and consequently as each rotation of the cam on the longitudinal shaft causes a blow of the drill, a comple revolution or rotation of the borer for every 16 blows of the long to the long to the resolution of the pore complete. drill, a comple revolution or rotation of the borer for every 16 blows of the machine. As the piston thus makes one complete rotation during 16 blows of the drill, the screw on the piston ad-

blows of the machine. As the piston thus makes one complete rotation during 16 blows of the drill, the screw on the piston advances the cylinder through the space equal to the pitch of the screw during the same time. The penetration of the borer, however, depends also on the hardness of the rock, and consequently without any further arrangement the liability to breakage and to stoppage would be greater than in the case of Schumann's machine, which might with great care be regulated by hand. Someiller's machine, however, has the advantage of regulating this automatically. The large screw which sits loosely on the piston rod only rotates when in gear with a sliding clutch, which constantly rotates with the piston. The sliding catch is kept (under ordinary circumstances) constantly pressed against the screw by means of a spiral spring, except when held back by an arrangement under the cylinder. This arrangement consists of a rod, the back end of which clasps the clutch or sliding catch. The front end, which is forked, fits into the notches on the under side of the frames, being pressed upwards into the notches by means of a spiral hinge. The extreme end of the rod carries a single crescent-shaped projection in the centre of (slightly below) the two frames. The front part of the piston rod carries a bell-shaped collar. When the borer does not penetrate fast enough the catch, by fitting into the notches under the beams, holds back the clutch (through the intervention of the long rod) from contact with the screw, which is thus not rotated, so that no further forward motion of the cylinder can take place. When, however, the borer has penetrated far enough, the collar on the piston rod comes in contact with the cresent-shaped projection, and resease it down. Logether with the catch, which otherwise fits in piston rod comes in contact with the cresent-shaped projection, and presses it down, together with the catch, which otherwise fits in the notches on the under side of the frame. The spiral spring can now push forward the clutch into contact with the screw, which is thus caused to rotate, when a forward motion of the cylinder takes place until, the penetration of the drill being so slow, the catch on the rod again comes into contact with the notches on the under the rod again comes into contact with the notices of the under side of the beam, and holds the clutch stationary during any further advance of the cylinder, which thus, together with the worm wheel, or screw, recedes from the clutch, which is thereby disengaged, and no further advance of the cylinder takes place until the borer, having penetrated far enough, again releases the catch on

order to clear the hore holes water is constantly injected from In order to clear the bore noise water is constantly injected from a pipe brought near the mouth of the bore hole, under a pressure of 70lbs, to the square inch, thus keeping the hole clean, and the borer cool. The weight of the machine is about 440lbs, and one machine is capable of boring from 8 to 11 holes, 1½ in, diameter and 3 ft. deep, per hour; three separate borers, from 2 ft. to 6 ft. in length, being used to each hole as it becomes deeper. On the average the being used to each hole as it becomes deeper. On the average the borers themselves were worn away less and blunted less often, so porters themselves were worn away less and bilinted less often, so that they were capable of doing from five to nine times the work that they effected when used in the ordinary way by hand.

In driving the Mont Cenis Tunnel about ten of Someiller's ma-

chines were placed upon one carriage at the end of the drift, so that from 60 to 80 holes were bored within the six-hours shift, and a like length of time was occupied in the removal and replacing of the machine, charging and firing the holes, and removing the debris, so that an advance at each end of 7 ft. per day was obtained. The holes were mostly horizontal, those near the top being inclined upwards, and those near the floor downwards. The diameter of the holes varied from 2½ to 3 centimetres, and were placed in horizontal rows. In order also to weaken the rock larger holes, of 9 to 12 centrimetres in diameter, were bored in favourable places, one being placed in the centre of the middle row. These larger holes were not charged. The central row was fired first. The work was completed in 40 months after its commencement.

Someiller's machine was tried at the mines at Mariehaye, near Liege, for driving two levels, on each of which four machines were employed. The air was compressed by a double acting air pump,

Someiller's machine was tried at the mines at Mariehaye, near Liege, for driving two levels, on each of which four machines were employed. The air was compressed by a double acting air pump, the cylinder of which was 30 in. diameter and 40 in. long, driven by a 40-horse power engine. The air reservoir consisted of several boilers of 140 cubic metres total capacity. The air at a pressure of from 45 to 75 lb, per square inch was led through a pipe 4 in. diameter down a shaft 412 metres deep, from which two branch pipes 2 in. diameter, conveyed the compressed air to the machines, the end connection being made with india-rubber piping.

Schwartzkopff's machine was devised for boring holes for blasting rocks on the Rhine, between Bingen and St. Goar. It is designed for boring holes 3 in. diameter and 3½ to 4 ft. deep. The frame of the machine is attached to a strong hollow cast-iron column, which has a long rack attached to it. A strong casting embraces the column, and by means of a long bolt and nut can be securely fixed or clamped at any height on the column. The back part of the casting is enlarged, to pass over the rack, and contains a toothed wheel, which gears into the rack. By means of a handle fixed to the pinion of the wheel the casting can be readily raised or lowered on slackening the clamp bolts. The front end of the casting forms two strong deep lugs, between which the end of the frame to which the machine is attached is inserted. A short thick shaft passes through the lugs and the end of the frame, thus forming a very strong hinge, the whole arrangement so far being somewhat similar to the attachment of the table of an ordinary drilling machine. The through the lugs and the end of the frame, thus forming a very strong hinge, the whole arrangement so far being somewhat similar to the attachment of the table of an ordinary drilling machine. The end of the frame can rotate about the shaft, passing through the lugs, so that the boring machine can be placed at any inclination, and by means of a long bolt and nut can be clamped in any position, and the hole bored at any desired inclination. In order to fix the column itself tightly and securely it is provided at the lower end with two sharp points, and at the upper end by a strong screw, similar to the arrangement described for Schumann's drill. The frame consists of a long flat casting, on which the cylinder and the rest of the machine can be slid. The casting, which is hollow, has a long screw running nearly the whole length of the frame, and over this screw a nut attached to the cylinder passes. The screw is rotated by means of a pair of bevil wheels by hand, so that the cylinder, and the rest of the machine, can be gradually pushed forward as the bore hole gets deeper, or withdrawn when it is necessary to use a fresh borer, or when the hole is finished.

The machine proper consists of a cylinder about 7 in. in diameter, and 5½ in. long, in which a narrow piston provided with a very

The machine proper consists of a cylinder about 7 in. in diameter, and 5½ in. long, in which a narrow piston provided with a very thick piston red, 4 in. in diameter, reciprocates, giving 1100 to 1200 blows per minute. The piston is driven by compressed air. The entrance and exit of the compressed air is regulated by one of Wilson's equilibrium valves. The reciprocating rotary motion of the valve is effected by means of a spiral-shaped cam attached to the end of the piston rod, which projects from the cylinder. This works upon a correspondingly shaped arm or lever attached to the valve spindle. The piston rod is not connected directly with the borer, but works like a steam-hammer on the end of the borer, or, rather, boring rod, which is guided by passing through a socket. rather, boring rod, which is guided by passing through a socket. The borer or cutter is at ached to the rod, and in order to clear the bore hole the borer is formed out of a strong square steel bar, which has been twisted spirally. The rod, and with it the borer, are bore hole the borer is formed out of a strong square steel bar, which has been twisted spirally. The rod, and with it the borer, are brought back \(\frac{1}{2} \) into after every blow by means of a spiral spring inserted in the back end of the socket. The stroke of the piston is about 4\(\frac{1}{2} \) in. The slow rotatory motion of the borer is effected by means of a ratchet wheel containing 22 teeth attached to the end of the boring rod; the catch which works into this and moves it through the space of one tooth for every blow of the piston, is attached to the (reciprocal partial rotating) valve spindle. The machine weighs from 500 to 600 lbs., and is thus too heavy for ordinary underground use. The machine possessed the two disadvantages that when boring in mild rock the borer penetrated further than the strength of the spiral spring was able to withdraw it, and when, on the other hand, the spring was made sufficiently strong it greatly reduced the useful effect in harder rock.

LEAD MINING AND SMELTING IN CANADA.

The determination of the Frontenac Lead Mining and Smelting The determination of the Frontenac Lead Mining and Smeiting Company to commence smelting operations upon a regular business scale, in consequence of the very encouraging results of their two years' mining operations, was noticed in the Mining Journal of April 14, and the fact that the works have been put up, and some 50 tons of pig-lead already sent into the market from them, can leave no doubt as to the energy that has been displayed by the executive. From the date of its astablishment the company has been cutive. From the date of its establishment the company has been quietly and unobtrusively pioneering its way, and although the geological formation in which it was proposed to work was known to be the mother of great hidden wealth the district chosen has proved to be rich even beyond previous expectations. The success achieved may probably be accounted for by the circumstance that it has been conducted almost as a private enterprise, although for convenience. may probably be accounted for by the circumstance that it has been conducted almost as a private enterprise, although for convenience and simplicity it has been duly registered under the Companies Acts, 1862-67. The property in the Dominion consists of the Frontenac Mine, near Wilmur, about 16 miles north of Kingston, where it has the mineral rights for more than a mile in length on a lode 12 feet wide, and hitherto of unfathomable depths, together with 200 acres of land. The company has acquired, or is in the course of acquiring, another similar property, with land and buildings, about 35 miles north-east of Kingston, which will be worked when it is in the interest of the shareholders to spend capital upon it.

For the erection of the smelting works the company has bought and paid for about 7 acres of land freshold in the north-east corner of the City of Kingston, with a water frontage of some 400 feet on

of the City of Kingston, with a water frontage of some 400 feet on the end of Lake Ontario, whereby it has rail and water commu-nication for distribution of its produce to all markets of the world. Here there has been erected at great expense a complete smelting plant, constructed under the supervision of a first-class mineral chemist and practical smelter. The chimney is 158 ft. high, the horizontal flue conducting to it being nearly 400 ft. long, and able to accommodate at least a dezen furnaces as the concern grows; there are all the sheds for stores, offices for assays and business, residences for officers and extrages for myrkman; a pick has been for officers, and cottages for residences for officers, and cottages for working, a pier has been run out about 80 feet long, and will soon be available for vessels of ample draught for all necessary purposes. These works were for-mally inaugurated on Sept. 21 by Sir John A. Macdonald, who put into the furnaces the first charge, and subsequently performed the ceremony of drawing the first pig, in the presence of all the elite and influential residents, who justly regard with great favour and interest this pioneer of a future grand industry for the Dominion, and there can be no doubt that in seizing upon this coign of vantage the directors have done wisely, as minerals being abundant, and coal being procurable from the States at moderate prices, their smelting

being procurants from the States at moderate prices, their smerting works alone would produce handsome profits.

At the Frontenac Mine, between which and Kingston there are very good roads, and rail more than half the way, the operations have hitherto been rather of a preparatory than a gain-seeking character, the object of the directors having been first to lay a good foundation for future profits, and to prove and explore the mine. With these views they have availed themselves by contract of the services of the American Diamond Rock Boring Company's machinery, and have probed the lode to the depth of 280 ft, meeting all down with the most satisfactory and improving indications. With their own staff and workmen assisting, the shaft has been re-

gularly sunk to 180 ft., and beside the adit levels have been driven to and 30 fms. respectively, at depths of 8 and 18 fms. Stopial, and hitherto has not been the main object, but the lode yields generally 14 to 14 ton of galena per cubic fathom, sometimes going rally 14 to 14 ton of galena per cubic fathom, sometimes going places pure solid galena is found in large masses, denoting greater riches lower down. The conditions for working are regarded as decidedly favourable on all points interesting to miners, making the requisite plant and machinery, including patent jiggers, and a new cross of extraction moderate. The mine is provided with all the requisite plant and machinery, including patent jiggers, and a new crusher capable of crushing 100 tons of ore per day, and which all the tract the directors have the option of purchasing their machinery. With a view to making their smelting works fully profitable their ore, which after smelting will be treated by Profitable the ore, which after smelting will be treated by Profitable the ore, which after smelting will be treated by Profitable the ore, which after smelting will be treated by ratisson's process and assayed at Bristol and London for 82 to 83 per cent. for lead, The first 50 tons of pig-lead which have been turned out of the new furnace in the first month have been placed for sale, and the lead is of a remarkably pure and soft character. The contract with the American D. R. Boring Company will be completed during the winter, and everything will be in readiness with the first opening of spring to work and smelt for profit, and no doubt is entertained that the smelting works alone will prove a source of hand some remuneration. The utmost satisfaction has been expressed by competent judges at the way in which Mr. Kilshaw's plans for the works have been carried out. It is understood that Mr. Stockwell entertains an idea of getting white lead from the galena direct as well as mannfacturing pig-lead, so as to secure a share of the profit of the white-lead from

THE MINERAL WEALTH OF PERU AND BOLIVIA.

It was briefly mentioned in last week's Journal that in treating of the history, products, and commercial resources of these States in his." Ten Years in South America,"* Mr. Dingman had given amply prominence to their mineral wealth; and although so long as the present disreputable state of the laws and the savage religious intoice ance now prevailing continues it would be unreasonable to expect any very large amount of commercial development, an account of the natural resources of the country will be no less interesting. It is continued to the country the first article of whose Constitution declares the "religion of the Government is Catholic, and it will not permit the enercise of any other;" and where the general feeling of the people so far as Peru is concerned, is indicated by the declaration—"If am to be rich I will be rich without working, and if I am to be poor I'll not work at all," no large amount of industry is to be expected, yet Mr. Dingman's tale about José, who was able thus to sum up his intentions and aspirations, is certainly worth repeating José was a middle-aged man living all alone in a hut in the out It was briefly mentioned in last week's Journal that in treating sum up his intentions and aspirations, is certainly worth repeating. José was a middle-aged man living all alone in a hut in the our skirts of the city of Callao, and spent most of his time in bed, near getting up to open the door before 12 o'clock in the day, and then when he finally did get up he moped yawning to a cluster of banana near by, pulled off a lot, and then returned to lie down in the shadow of the but to ext. His whole wardrobe consisted of a pair of drawers, a long shirt hanging loosely outside, and part of a crowdles old hat. The attempt to shame him into doing at least a little work was nlways met with the reply already quoted. One day a persar came early in the morning enquiring for, José; he was shown the htt, but told that he could not see him, as he never got up before noon. The person went but soon returned, saying that José answered, but refused to open the door, although he told him that he was bearer of news that a forturne had been left to him by a decasar relative. Afterwards, about 10 o'clock a notary came, and togethan was bearer of news that a fortune had been left to him by a decases relative. Afterwards, about 10 o'clock a notary came, and togethe they went to look after José, but he was still in bed. The notar called to him to get up and let him in, for he had come to delive him a cheque for \$10,000 left him by his aunt. "Push it under the door!" shouted José, and that was all they could get out of him for get up he would not. That, Mr. Dingman remarks, may be called the superlative degree of laziness.

After an interesting account of the destruction of Callao in 1744.

door!" shouted José, and that was all they could get out of his for get up he would not. That, Mr. Dingman remarks, may be called the superlative degree of laziness.

After an interesting account of the destruction of Callao in 1746, Mr. Dingman gives a very good account of Lima and its inhabitant giving especial attention to the Gallinazos and Limenas. He describes the climate as very equable and renovating, and very health, after the foreigner has once acclimated, which is very soon in a country where there is so little variation in the temperature. The new comer is subject only to terciana, a kind of fever, and agus which but rarely, if ever, is known to attack a robust person. The thermometer ranges from 70° to 75° in winter, and from 85° to 90° is summer. The absence of rain is compensated by a heavy dew almost every night during the winter months from May to October. There is no thunder or lightning, and earthquakes are so common, especially in the spring, that little notice is taken of them. The annal political revolutions give equally little annovance to the inhabitants. The country, moreover, abounds in mines of gold, silver, copper, and coal, and inexhaustible coal-oil springs have been discovered in the northern part of the Republic. It is said that gold may be found in nearly all the passes, and nearly all the rivers from the Andes wash down the auriferous sands. The richest gold mines of diggings are in the vicinity of Tarma. The guano deposits and various other industries of the Republic are also fully referred to, so that a very accurate idea of its resources can be formed.

The volume devoted to Bolivia opens with an account of the Caracoles Silver Mines, which were discovered in 1870 in the Desar of Atacama, by José Diaz Gana, whose innumerable exploration have been the means of opening an extensive horizon to the capita and industry of Bolivia and Chili. It appears that Diaz Gana, not being satisfied with the result of his explorations on the borders of the desert, sent a part of his company t

are the Merceditas and Deseada Mines, and followed on suttherd picking them up in different directions, not knowing their value but thinking possibly they might be of service. Later on he joined Mendez and the others, who had also found loose pieces of ore, and had made marks in the lead with their knives. Two of them is mediately started to the coast to inform their patron. They had had made marks in the lead with their knives. Two of them mediately started to the coast to inform their patron. They been to Diaz Gana what Sancho Mundo was to Columbus. The covery was made, and that dry and solitary desert a short it after was the centre of an active population. Diaz Gana bapti that emporium of riches Caracoles, and he was right. The fost characterising the lias were abundant, and as a matter-of-fact in he fixed upon this notable geological formation to give a name his discovery. The young Chilian Francisco Bascunan Aleaza another of those untiring explorers who have helped to convert desert into a field of labour and industry. After long and labour explorations in Copiapo, Bolivia, and Catamarca in 1857 he return to the desert in 1870, and discovered in Caracoles the group call

"Ten Years in South America: Notes of Travel in Peru, Bolivia, Chientine Republic, Monte Video, and Brazil, comprising History, Commerciation, Climate, Products, &c." By BRYJAMIN S. DINGMAN. Part. I., Bolivia. Montreal: Gazette Printing House, London: Tröbse o., Ludgate-hill.

Isla on a 10,000 to may be n San José, Sad Amer athers we science re and Caraco of large (at faculty and not in well as in thousands also in the book Mr. that he has Although

diron in

of Brookly be separate meh serap covery of t

Nov.

a scraps m ay, howeve es may he tions, hool ag, the on ne scraps an milate. Hes ing it in bric nted from the

oved pro

holly, and a cendin to a hook f tended are own into th and he cath rawn f or II The ed of in

sary onl caps and no For the puring it into a purite anode, a

sarranged in

^{*} Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath, Dr. Von GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

877.

n drive opi

las de ing the

when the eir con chinery table the

proc for t of the and the

d during rst open is enter of hand

ockwel

a direct

es, and a

tory fu

and that eturn.

VIA.

treati enamp s the pr

into o exp

habitant

He de

n he joined of ore, and them im They had The dis

s. The dis-short time a baptised. The fossile of-fact man a name to Alvarez is

he retur roup ca

ia, Chili

like an account of its topographical position. The mines are from 1800 to 15,000 ft. above the level of the sea, and among the richest 1800 to 15,000 ft. above the level of the sea, and among the richest 1800 to 15,000 ft. above the level of the sea, and among the richest 1800 to 1800

BLECTRICITY FOR RECOVERING TIN FROM TIN-PLATE SCRAP.

Although the separation of the metals forming tin-plate scrap by been made to yield large profits in several places on the Consist, comparatively little attention has been paid to the subject in the country, and even in their application to the improvement the profits in the puddling-furnace, which is said to have given excelingly the series of a series of careful experiments with processes are series. By means of a series of careful experiments with processes is which the agency of electricity is made use of, Mr. N. S. Kerth, is which the agency of electricity is made use of, Mr. N. S. Kerth, as ascertained that if scraps of tin-plate is sparsted and extended, the tin can be removed from all parts of the series of the tin and iron can be effected with great rapidity. By simple mechanical arrangement the scraps are moved progressively through a liquid electrolising bath while under the action of the electricity and the solution constituting the bath, and consequently the tin scraps can be entered into and removed from the electrolising bath in continuous progression as distinguished from the declosing a multitude of scraps simultaneously into the bath, leaving all them therein during the same period, and then removing menther from simultaneously. He has found, moreover, that if the scrap tin-plate in the bath be subjected simultaneously to the rim of electricity and heat exceeding 160° Fahr. or thereabout, realisin the electrolising bath the tin may be dissolved and removed without material solution or oxidation of the iron which forms the body of the scraps. Although the separation of the metals forming tin-plate scrap

of the scraps.

s apparatus which he employs for effecting the separation is The apparatus which he employs for effecting the separation is say simple, and consists of a vat for holding the electrolising bath; a selless chain conveyor, or some substitute or equivalent therefore for holding and moving the scrap tin-plate through the said at add for small scrap a cage or basket, which may or may not be light to revolve, a central electrical cathode, means for heating the light in the vat, and a galvanic battery, or some equivalent or sisting the practice the scrap tin-plate is immersed in an electric current. In practice the scrap tin-plate is immersed in an electrolising within the vat, and is connected with a galvanic battery, or other mans of furnishing a current of electricity, in such manner that the scrap constitutes the anode for the current, while the vatisself, some suitable conductor contained in it, constitutes the cathode ple scrap constitutes the another for the current, while the varieser, access untable conductor contained in it, constitutes the cathode in the current. Various liquids may be used for the electrolising panin fact, any liquid may be used that will dissolve the tin spential by electricity; he prefers, however, solutions which path a quantity of free alkali, such as caustic potash or caustic pan, any galvanic battery may be used to generate or furnish the description cannot be accounted to the requisite of the re

gatin a quantity of tree attail, such as caustic potash or caustic pata any advanic battery may be used to generate or furnish the istricity, or any of the magneto-electric machines, the requisite in fliparticular being a quantity current of sufficient amount. A grant of intensity may be used, but he does not recommend the safested his content, the vat or tank containing the liquid may led iron, or any other metal or substance which will not be affected his contents, but it is preferable that the vat should be of a material which will conduct electricity.

Seap tin-plates, as usually found in the market, are curled or less and are tangled together in masses, so that some parts of each sap are overlapped by adjacent scraps, or frequently by other puts of itself. On the other hand, the currents of electricity pass shelly of thereahout from the surfaces of the anode in the electroliar batt to those of the cathole. Hence, if the scraps of tin-platemain in the mass while they are subjected in the bath to the scraps which are opposite the surfaces of the table, while the overlapped surfaces of the mass will be but lightly, if at all, affected. Therefore, according to Mr. Keith's mass, the scraps are first separated and extended to such extent that their surfaces are not overlapped on material extent, and leg are subjected in this separated and extended condition to the settic action. For the latter purpose the scraps, according to the part of the invention, are placed upon the cross bars of an endestric action. For the latter purpose the scraps, according to mapart of the invention, are placed upon the cross bars of an end-laschain of rods or other moving frame connected electrically with the positive pole of the source of electricity, and this chain or frame is moved progressively into, through, and out of the vat, so that the scraps may be entered progressively into the bath, and removed progressively therefrom, and that the operation may go on motions as the scraps in the scra

The solutions which he has used with success are—Caustic soda lbs. nitrate of soda 1 lb, to every gallon of water contained in the w; or caustic potash 3 lbs., nitrate of potash 1 lb., to every gallon dwater; or caustic soda 1-5th lb., and common salt 2 lbs., to every plan of water. The proportions and constituents of the solution lbs, lowever, be varied as circumstances or the views of the different lbs may determine. The rode competing the pair of outless wire. men may determine. The rods connecting the pair of endless wiremes may be plain iron or copper rods, or may be fitted with projetius, hooks, or other appliances upon which the scraps may be
laug, the only requisite being that when the scraps are on the rods
scraps are in electrical connection with the battery or its subfitte. Heat is applied to the contents of the vat, either by building it in brickwork, forming flues like those of a steam-boiler, and
munuscating with a furness or hy impressing in the tanks and communicating with a furnace, or by immersing in the tank a coil two steam-pipes, supplied with steam from a steam-boiler. The laist of rods being put into motion, the tin-plate scraps are sepahain of rods being put into motion, the tin-plate scraps are sepa-mid from the mass of scraps by being picked up one at a time by hildren, are pulled lengthwise, so as to extend them partially or tholly, and are hung upon the rods of the chain above the vat at is desending side of the chain, one end of each scrap being bent hiba hook form for the purpose. The scraps thus separated and staded are by the movement of the chain carried progressively form into the bath, and upward at its opposite side, and when they is raised above the vat they are removed by children. During the immersion of the scraps in the bath they are treated The conjoined agencies of the solution forming the bath—elec-haty and heat. The tin is dissolved from the scraps, and separates at the cathode, and it is deposited in the vat in the condition of

The solution forming the ball—electric bidy and beat. The tin is dissolved from the scraps, and separates at the cathode, and it is deposited in the vat in the condition of spales of metallic tin. The materials thus deposited may be subdayed from the vat through a faucet, without removing the abole, or may be scooped out, and the tin matter thus recovered the the scrap tin-plates is washed, and either reduced to the form of block tin by the usual metallurgic processes, or is otherwise alied. The iron of the scraps being cleansed of the tin is rended useful for the purpose for which scrap-iron is used. The prosable and a continuous one, though but a comparatively small should be scrap is under treatment at once, a large quantity can be stoped of in a given time, and much valuable metal, which is now this scan be utilised at a comparatively trifling cost. The solution constituting the bath remains practically permanent, it being seems only to replace such water as may be dissipated by evaporsim, and to add from time to time enough of the other constituent reps and not saved by washing them.

Figure the small quantity univoltably the same and to saved by washing them.
For the purpose of increasing the surface of the cathode, and bring-light into a position to work more satisfactorily in connection with a same, a division plate of sheet-iron or other suitable material stranged in the control of the cathode, and preceding ananged in the vat or tank between the entering and receding

portions of the chain of rods, so as to present an antagonistic surface to both the ascending and descending portions of the chain of rods when in motion. He finds it expedient so to proportion the breadth of the vat that the chain of rods is about I ft. distant from the surface of the cathode at each side of them. In place of constructing the vat or tank of iron it may be constructed of some nonconductor of electricity. and may have sheets or plates of iron, copper, or brass suspended in it at both sides of the chain of rods, and connected electrically with the negative pole of the battery, so as to form the cathode. In place of having the rods permanently secured to the chains or wire-ropes, it is convenient to have them hung upon form the cathode. In place of having the rods permanently secured to the chains or wire-ropes, it is convenient to have them hung upon hooks or other appliances attached to the chains or ropes. In such case the rods may be charged with scraps when separted from the chains or ropes, and then applied to them. The rods also may be removed from the chains, so as to facilitate the stripping of the scraps from the rods. The chains or rods may be moved continuously, or at short intervals as found most convenient, and if some parts of his invention are used without others, the scraps may be applied in a separated condition to a rack or frame of rods, which is lowered into the vat left there long enough to permit the tin to be separated, and then rated condition to a rack or frame or rous, which is lowered into the vat, left there long enough to permit the tin to be separated, and then withdrawn from the vat. Mr. Keith does not limit himself to the employment of a certain kind of solvent or solution, but prefers those which, under the conditions employed, have no dissolving or injurious effect upon the iron of the scrap.

GEOLOGICAL SOCIETY OF LONDON.

Nov. 7-Prof. P. MARTIN DUNCAN, M.B., F.R.S. (President), in the chair.

Nov. 7—Prot. P. Martin Duncan, M.B., F.R.S. (President), in the chair.

Stephenson Clarke, Croydon Lodge, Croydon, Surrey; William Hunter, Sandhoe, near Hexham; and the Rev. W. Roberts, St. Leonard's-terrace, Chelsea, were elected Fellows of the Society.—

Isaac Bayley Balfour, M.B., D.Sc., Inverleith-row, Edinburgh; David Burns, Geological Survey of England, Jermyn-street; Samuel Cooke, M.A., Assoc. Inst. C.E., Professor of Chemistry and Geology, Poona Civil Engineering College, Bombay; Henry Drummond, Glenelm Lodge, Stirling; Sandford Fleming, C. E., C.M.G., M. Inst. C.E., Durham Villas, Kensington; Rev. John Hodgson, M.A., the Vicarage, Kinver, Staffordshire; William Etheldred Jennings, B.A., School of Mines, Swdney, New South Wales: Henry Merry weather, Fairholme. Kinver, Staffordshire; William Etheldred Jennings, B.A., School of Mines, Sydney, New South Wales; Henry Merry weather, Fairholme, Clapham; Robert Robinson, M. Inst. C.E., West Terrace, Darlington; Martin Stewart, B.A., Yorke House, Wakefield; George Eastlake Thomas, Wolverhampton; Robert F. Tomes, Weston-on-Avon, Stratford-on-Avon; and Irwine John Whitty, Assoc. Inst. C.E... of Giridhi, East Indian Railway, Bengal, were proposed as fellows of the Society.—Oswald Fitch, Highbury New Park; John Hadkinson, Brunswick-street, Liverpool; B. Holgate, engineer, Atkinson-street, Hunslet, Leeds; H. F. Parsons, M.D., Goole, Yorkshire; and Elgar P. Rathbone, Duke of Norfolk's Nunnery Colliery Offices, Sheffield, will be balloted for as Fellows of the society.

The President announced that Mr. Frederick L. Woodward had been appointed Junior Assistant in the Library and Museum.

The following communications were read:—"I am directed by the Earl of Derby to state to you, for the information of the Geological

The following communications were read:—"I am directed by the Earl of Derby to state to you, for the information of the Geological Society, that his lordship has received a despatch from Her Majesty's Minister at Tehran, reporting that a mining engineer had arrived there from Berlin, who, at the request of the Persian Government, had been selected by Messrs. Siemens to ascertain what foundation there was for the reported existence of a rich vein of gold in the vicinity of Zengan; that he had visited the locality and reported that auriferous quartz does exist, but that he had not yet succeeded in finding any vein or deposit of the metal.—JULIAN PAUNCRFOTE."

2.—"Notes on Fossil Plants discovered in Grinnell Land by Capt. H. W. Feilden, Naturalist to the English North Polar Expedition," by Prof. Oswald Heer, F.M.G.S.

3.—"On our present knowledge of the Invertebrate Fauna of the Lower Carboniferous or Calciferous Sandstone series of the Edinburgh neighbourhood, especially of that division known as the Wardie Shales, and on the first appearance of certain species in the

Wardie Shales, and on the first appearance of certain species in the beds," by R. Etheridge, jun., F.G.S.

EXPERIMENTS IN GETTING COAL WITHOUT GUNPOWDER,

The question of the use, or rather disuse, of gunpowder in getting coal is more and more attracting the attention of mining engineers and those interested in collieries, and by many it is considered that powder will have to be entirely prohibited in fiery seams or where safety-lamps have to be used. The recent terrible explosions at Pemberton and Blantyre have brought the question to the fore, and various methods by which powder will it is hoped be superseded have been suggested and tried. These include driving down the coal by means of wedges, and exploding cartridges with compressed air. The difficulty with the former methods of ar has been the trouble and time required in driving the wedges into the coal, and the machinery for the latter has not we hear yet been suffactorily completed. One of the best wedges invented anpears to be that patented by Messrs. Dingley and Ackers, of Lower Incs, near Wigan, and this has been repeatedly tried with success, in fact it is now being used with advantage is some seams, and for the purpose of roofing down metal. It consists of a steel wedge and two clips, forming exteriorly when placed together a circle in transverse section. In the interior are grooves to receive the wedge, these being constructed so as to caue the clips to open parallel to each other when the wedge is driven into them. The wedge is constructed of Bessemer steel I in. thick, being 4 ft. long, and the breadth of the tapering from 2½ in. to nil. As previously stated much manual labour, however, is required in drivin; the wedges, and Mr. Israel Knowles, of the Pearson and Knowles Coal and Iron Company (Limited), who noticed this drawback in using the wedges at their collieries, conceived the idea that by applying hydraulic pressure the want would be supplied. He immediately testet he idea in a practical form, and finding it suc ceeded, se cured its application by a protection order. Having had one of Dingley and Ackers' wedges fitted with an in hydraulac ram he invited a party of mining engineers and other

and to judge whether the new method in any way came up to the requirements of the times.

The experiments took place on Monday at the Moss Pits, Inc., of the Pearson and Knowles Coal Company, and amongst the gentlemen who took part in the proceedings were: - Mr. Israel Knowles; Mr. J. L. Hedley, Government Inspector of Mines; Mr. C. F. Clarke, Garswood Coal and Iron Company; Mr. Walter Toping, Cross, Tetley, and Company; Mr. J. Gerrard and Mr. W. Bullen, Ince Hall Coal and Cannel Company; Mr. J. Gerrard and Mr. W. Bullen, Ince Hall Coal and Cannel Company; Mr. J. Gerrard and Mr. W. Bullen, Ince Hall Coal and Cannel Company; Mr. Sers. Kenney and Wall, Wigan, surveyors to the company; Mr. J. Smith, Bickershaw Collieries; Mr. J. H. Walker, mining engineer, Wigan; Mr. Robert Gundry, Hindly Field Collieries; Mr. J. Latham, Moss Hall Collieries; Mr. E. Seddon; Mr. Durand, Scowcroft and Co.; Mr. James R. Knowles and Mr. J. Knowles. The party descended the No. 2 or upcast shaft to the Pemberton Five Feet Mine, and then proceeded along the main level to a downbrow, a distance of about 159 yards from the shaft, the spot where it had been decided the day's experiments should take place. This place had been selected on account of its enabling the whole of the gentlemen present to witness the trials of the machine, and as soon as the party had inspected the preparatory arrangements which had been made, the experiments were commenced. A ½-Inhydraulic ram, worked by hand, was used, this being connected by means of wrought-iron tubing with the cylinder, in which a portion of the wedge was inserted, and the cylinder, 4 in. in diameter and 11½ in.lin length, was bothed to the clips of the wedge by two bars, constructed so as to allow of the cylinder being moved to its original position when the wedge had been forced to the full extent of the stroke.

The first experiment was in a "strait" place on the end of the coal, 10 ft. wide,

of the stroke eriment was in a "strait" place on the end of the coal, 10 ft. wide, the coal being cut on the higher side. In this trial as well as the others the experiments, with a view to test the power of the wedge, were conducted in such a manner as to put the appliance at greater disadvantage than would be the case in the ordinary course of mining. The hole was placed on the lower side and was 3 ft. 6 in. ments, with a view to test the power of the wedge, were conducted in such a manner as to put the appliance at greater disadvantage than would be the case in the ordinary course of mining. The hole was placed on the lower side and was \$15. 610. deep, and the coal was holed a distance of nearly 4 ft. The wedge was placed in the drill hole, and in 17 minutes, 4½ of which were occupied in fixing and refixing the wedge and clips, the coal was successfully brought down. The weight of the coal dislodged was nearly 4 tons, and a very small proportion of this was slack. The second experiment was also on the end of the coal, this time with a side loose on the higher side. The length of the block was 12 ft., this being holed 4 ft. The drill hole was again a ft. 6 in. deep, and was placed on the lower side. In 7½ minutes after insetting the wedge the coal was brought down forcing it off clear to the back of the holeing on the higher side, and leaving some 6 in. on the lower side. The cylinder had to be moved once, and this occupied 2½ minutes, so that force was only applied 4½ minutes. Between 7 and 8 tons were estimated to have been got by this one wedge, and very little of it was slack or even small coal. The third attempt was more to see whether, with the assistance of the wedge, side cutting outle be entirely done away with, or if this could not be attained, what labour would be saved by first using a wedge, and, as many of our readers are aware, side cutting is a very irksome and slow process. A place was selected on the face of the coal, 18 ft. 6 in. long, and this was holed 4 ft. deep. Drill holes of the first hand side. After being forced a distance of 2 ft. the side, although hours or more. The coal out was principally "round"—a marked contrast to the slack usually produced—and allowing for the time generally taken for this work being two hours or more. The coal out was principally "round"—a marked contrast to the slack usually produced—and allowing for the time generally taken for this work being two hours or mor

Hedley, on behalf of those present, thanked Mr. Knowles for his kindness in inviting them to witness the experiments. The trials were of great interest to all of them, and for his part he considered the result very satisfactory. He wished Mr. Knowles every success with his invention.—Mr. Walter Topping, in seconding the rote, said there could be no don't that the question of using powder in coal mining would engage the attention of the Legislature at an early date, and that, therefore, it behoved all of them to watch with great interest all inventions which it was proposed to substitute for it in getting coal. The experiments that day he thought were very successful, and the step was one in the right direction, but he considered that the work would have to be done even yet more expectitiously.—Mr. Knowles briefly acknowledged the thanks, and said that the invention was only yet in its infancy, but he thought it would accomplish all that was desired. The machine was only tested for the first time a few days previously.

EXPERIMENTS WITH A ROCK-SALT CUTTING MACHINE AT WIELICZKA.*

The working of rock salt by the ordinary method of excavating with a pick and blasting the undercut mass is attended with the disadvantage of making a large amount of small coal, besides giving lumps of irregular form which are inconvenient for carriage. It has, therefore, been considered desirable to substitute, if possible, the use of cutting-machines for hand labour in the Wieliczka mines, and for this purpose experiments have been made with a machine supplied by Stanek and Reska, of Prague. The method of working the salt at present used is to divide it into rectangular blocks by grooves about 25% in. deep both at the top and bottom of the bed, and vertical cuts of the same depth from 6 ft. to 10 ft. apart. The blocks so released are brought down by wedging and broken upfor sale into lumps varying from 30 lbs. to 88 lbs., and in order to satisfy these conditions it was necessary to employ a "Universal" machine, capable of cutting at any angle. The maximum depth of cut required is 30 in., and the vertical distance between the roof and the floor of the salt bed is 4 ft.

The cutting arrangement is similar to that of Winstanley and Barker's coal-cutting machine—i.e., a large toothed wheel carrying

floor of the salt bed is 4 ft.

The cutting arrangement is similar to that of Winstanley and Barker's coal-cutting machine—i.e., a large toothed wheel carrying steel cutters on the circumference, mounted at the end of a lever so as to move radially while at the same time it is slowly rotated by a pinion, but unlike that machine the construction is, byrenson of the various directions in which it is required to work, exceedingly complicated, there being no less than four changes of motion between the driving axle and the cutting wheel; the arrangements being generally similar to those of an engineer's radial drilling machine, with additional movements for varying the plane of the cutting wheel. These together with views of the machine in the different working positions are set out in full detail in the accompanying plates. The machine is self-acting, being moved on a line of railway by a hauling chain passing over a drum under the framing, the ends of which are made fast to fixed traverses at either end of the gallery. The driving engines have cylinders with a stroke of 7-5 and 12 in. Compressed air is used as the motive power. With a pressure of 2-36 atmospheres, the engines make 100 to 120 revolutions per minute, which is reduced by the various trains of gearing wheels to 8 revolutions of the cutting wheel. This has 20 teeth, and 7 cutters to every 4 teeth, so that 35 blows are struck in each revolution, or 280 per minute, against the surface of the rock. The maximum rate of movement of the machine in undercutting along a face is 4 in. per minute, the corresponding depth of cut being 0-475 in. per revolution.

The experiments were commenced in July, 1876, upon a bed of

volution.

The experiments were commenced in July, 1876, upon a bed of salt nearly 6.5 ft. thick, but varying irregularly in dip in all directions, upon which a working face of 105 ft. had been prepared. The horizontal cuts were put in from 0.4 in. to 1.2 in. above or below the actual floor or roof of the bed, partly to prevent the small sait being mixed with dirt from the rock, and partly to prevent the roof scaling into the workings, which invariably happens when the entire thickness of salt is removed.

ness of salt is removed.

The results of eight months' working show that the machine can cut horizontally 59 square feet per hour. When slitting vertically to a height of 59 ft, the reversal of the cutting frame headstock occupies about three-quarters of an hour, so that the rate of progress is reduced to 30 or 40 square feet per hour.

The cutting points, made of cast-steel, will cut a surface of 452 square feet in clean salt without requiring to be reset, and each set will bear sharpening five or six times before they are worn out, or 2712 square feet can be cut with one set of points. If, however, bands of anhydrite or sandstone are met with, the points are ground off immediately.

of immediately.

The average cost of cutting by the machine appears to be about 90 krouzers (21.6d.) per square metre, as against 1.15 fl. (27.6d.) per metre paid for handwork. The principal advantage is, however, to be found in the diminished proportion of small salt to lumps, the latter being worth about 7s. per ton more than the former. In the ordinary way, working by hand, the percentages are lumps 75, and smalls 25, while by the machine 83 per cent. of lumps and 17 of smalls are obtained. of smalls are obtained.

Bessemer steel is employed for all the moving parts of the ma-chine, except the cutting wheel and driving pinion, which are of crucible steel. The cost is about 430%, and that of the air compressing arrangements, which are designed to drive other machines as well, 990%.

By A. JANOTA: Oesterreichische Zeitschrift für Berg-und Hüttenwesen By A. JANOTA: Designations and Property of Transactions and Periodicals," for the Proceedings of the Institution of Civil Engineers.

Puddling and other Furnaces.—The invention of Messrs. Caddlick and Maybery, of Middlesborough, relates to furnaces employed for puddling, heating, and melting iron, and for other metallurgical operations, having reference chiefly to the combustion chamber of a furnace to act as a producer or generator of combustible gases, constructing it of fire-brick enclosed in an iron casing, and outside this casing they provide a second casing, so that there is an air space between the two casings. There are passages form this space through the inner casing and fire-brick through into the combustion chamber, some of these passages being at a low level, entering that part of the chamber which is occupied by fuel, or entering a closed ash-pit or space below a fire-grate on which the fuel rests, and others of these passages opening into the combustion chamber above the level of the fuel therein. There is also a large passage or throat from the upper part of the combustion chamber into the bed of the furnace. The air space between the casings is supplied with air entering by an aperture from the external atmosphere, or forced in by a fan or other blast. The air entering this space, and becoming heated by contact with the inner casing, passes by the several passages into the combustion chamber. The air which enters by the lower passages serves to maintain the combustion or partial combustion of the fuel, producing in flammable gases, and the air which enters by the upper passages mingles with these hot gases, producing flame, which passes by the throat into the bed part of the furnace, and acts on the metal or material therein; also the passage of air through the space between the casings has the effect of keeping the outer casing cool, so that not only is the heat radiating from the combustion chamber thus utilised for warming the air supplied to it, but also the exterior of the chamber is so cooled that workmen employed at the furnace are not incommoded by the neighbourhood of the combustion chamber. A producer or combustion PUDDLING AND OTHER FURNACES .- The invention of Messrs. at the furnace are not incommoded by the neighbourhood of the combustion chamber. A producer or combustion chamber as described may serve for a single furnace bed, or there may be several furnace be's arranged round one such producer, a throat therefrom being provided for each of them.

UTILISING WATER POWER TO COMPRESS AIR .- With a view to utilise water power by converting it into more manag-able pneumatic power, Messrs. SWAN and HUGHES, of Formby, Luncashire, construct an annular trough in which a weighted chamber, like a gasometer, floats in water or other liquid; within the annulus is a gasometer, floats in water or other liquid; within the annulus is a second covered chamber into which the water from the head is let; this water forces the air up through a valve into the floating chamber, raising the said chamber; when it has been raised to its full height the valve between the floating chamber and the central one is then automatically closed, and the air from the floating chamber is utilised for work. The water falling in the central chamber draws air by means of a pipe and valves from another chamber, in which is another similar weighted moveable chamber, which by the partial vacuum formed is drawn up, and by its descent after gives out power by compressing air. Thus, while one chamber is filling the other is giving out power. The annular trough should be kept full of liquid, but in some cases can be entirely dispensed with, the central chamber being immersed in the water, and a pipe with a valve on the top being placed below it above the water line, syphons can take the place of valves.

Original Correspondence.

MINING IN THE EAST-No. XXIII.

CONTACT DEPOSITS OF THE BANAT.

GROLOGY.—It has been shown that the deposits of the useful minerals at Dognacska extend in interrupted masses around disunited fragments of highly crystalline limerock, which is superincesed upon and encompassed by eruptive rock. In the mining district of Oravitza, Esiklowa, the converse of this disposition of the rocks occurs, as during the upheaval of the syenite the limestone strata were progressively absorbed until the remaining crust was timply shattared into long string which sinking less or more towards. finally shattered into long strips, which, sinking less or more towards a vertical position, were severed by the eruptive matter. The numerous tracts of limestone thus enclosed were metamorphosed into merous tracts of limestone thus enclosed were metamorphosed into several species of garnet and felsit rock, whose petrographical relations exhibit singularities which are only associated exceptionally with metalliferous deposits. This district is rendered doubly instructive because the eruption passing obliquely across the junction of the limestone with the crystalline schists has developed rocks not previously in existence from amidst the various strata on which during secular upheaval it reacted.

There are two masses of syenite—one to the south of the district at the village of Illadia, which, surrounded by schists and recent strata, has given birth to no minerals, and the other rising through Nescomian beds and crystalline schists, which has elaborated those deposits whose metallic wealth founded the towns of Oravicas and

Nescomian beds and crystalline schists, which has elaborated those deposits whose metallic wealth founded the towns of Oravicsa and Ceilelowa. At surface the metalliferous mass of syenite appears as a network of tortuous ramifications, which enclose a number of lentiform masses of limerock, garnet-rock, schist, &c., maintaining, however, a general meridional direction. On the eastern borders these ramifications are narrow, and prolong themselves far into the beds of limestone, whilst on the west, where mica slates prevail, they expand into broad tracts, possessing the usual sombre features and rounded outlines which distinguish granitic regions. The aggregate length of contact, caused by this complex arrangement of the rocks, is very great, but owing probably to the small bulk of the isolated patches of limerock, the deposits of ore formed along the junctions have been neither so numerous, rich, or varied as those found around the massive lentiles of similar rock at Dognacska. Uniformly the metallic ores have been found along the contact of the syenite with metallic ores have been found along the contact of the syenite with the a tered sedimentary strata, and no important accumulation of mineral has ever been discovered at a distance from it. Though the dislocation of the sedimentary beds, caused by the up-

Though the dislocation of the sedimentary years, caused of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the concurrent reactions due to the intrusion of the erupheaval and the erupheaval an tive matter, have produced metamorphic effects of a very diversified character, two species of rocks may, notwithstanding, be clearly distinguished. The first-class includes those rocks which are calcareous, such as crystalline and compact garnet-rock, crystalline limerock, hornstone, &c. Many perfect crystals of Wollastonite and Vesuvian are found in the garnet rock, which itself is often entirely made up of dodecahedrons of grassular, showing varied shades of green. red, and brown. The compact garnet-rock is homogeneous in structure, straw-yellow in colour, and breaks with an even fracture, assuming, however, towards the surface a softer and somewhat earthy character. The limerock is highly crystalline, is snow white, and though sometimes saccharoid in appearance has usually a flaky structure. The hornstone, here known as Kieselschiefer, is a siliceous structure. The hornstone, here known as Kieselschiefer, is a siliceous limerock, hard, white, and granular, and is probably the result of metamorphic action on the marl beds, which are interstratified with the limestones of the Banat basin. The second-class is composed chiefly of hornblendic minerals, such as tremolite, actinolite, compact apophylite—the result of the metamorphism of the schists, due to the immediate contact of the syenite, but they do not form large masses, being usually found fringing its borders in association with limerock or garnet-rock. Masses of quartzite have been similarly found, and in some places the schists have been so shattered that they are merely a network of veins, filled with siliceous matter, often agriferous.

The confused disposition of the transfermed codimentary extrates.

auriferous.

The confused disposition of the transformed sedimentary strata lying upon and about the upheaval has given rise to the contact of rocks, very diversified in character. Metallic ores have been segregated along these various junctions, though constantly in connection with the plutonic rock. The greatest number of deposits, though not the richest, have been found at the confines of the syenite and limerock. Very valuable and lasting mines have been worked not the richest, have been found at the confines of the syenite and limerock. Very valuable and lasting mines have been worked limerock. Very valuable and lasting mines have been worked between the latter and a calcareous hornstone, though even here the eruptive rock was disclosed in depth. Many accumulations of minerals were discovered along the margin of garnet rock and a peculiar felsite, and in the mass of the latter, apparently removed from the influence of other rocks, ores of a very high percentage were concealed. A few deposits of less importance were opened where the schusts rested on the banatite.

The creater saldom in direct contact with any of the rocks, because

The oresare seldom in direct contact with any of the rocks, because they are intimately associated with a gangue composed of garnet-rock, fibrous tremolite, actinolite, apophylite, wollastonite, calcite. rock, fibrous tremolite, actinolite, apophylite, wollastonite, calcite, felsite, and quartz in varying proportions, in which lie scattered irregularly fragments of the inclosing rocks. Frequently these gangues ere made up of a prevailing mineral, the other constituents playing but a subordinate part, and this predominance of a particular mineral is in distinct relation with the character of the enveloping rocks, thus where limerock is present garnet-rock prevails, and a preference for tremolite is observed wherever schists occur. One remarkable and extensive mass of gangart consists entirely of and a preference for tremolite is observed wherever schists occur. One remarkable and extensive mass of gangart consists entirely of compact felsite rock. The gangue accompanying the ores is not found in such voluminous masses as at Dognacska and Moldova; they are, however, never entirely absent, and occupy a greater or smaller zone between the calciferous rocks and the syenite. At the contact of the latter with the crystalline schists, the gangart seldom appears, and consequently there no workable deposits have been discovered. The ores must abundant at these contacts are those of iron and copper—in smaller quantities lead, zinc, and gold. Some iron and copper—in smaller quantities lead zinc, and gold. Some of the copper and lead ores contain a fractional percentage of gold and silver. Very large denosits of mundic are frequent, some of them cupriferous, but not sufficiently so to allow of their extraction. Those portions which touch the surface have been changed into red and brown ironstone, much of which has been quarried and sent to the Anima Ironworks for reduction. the Anima Ironworks for reduction. The change into banatite has not, however, extended far, and at a few fathoms deep the ores are so mixed with sulphides as to be no longer fit for smelting, and on this account the mines have been all discontinued.

as mixed with sulphides as to be no longer fit for smelting, and on this account the mines have been all discontinued.

The depositaries of ore are not continuous along the contacts, but occur at isolated points in a very erratic and obscure manner; and taking into account the extent of the metamorphosed rocks, they must be also considered atrangely scarce. This seems to be owing to the intensity and too long continuance of the plutonic action, leaving remnants of limerock of a magnitude insufficient to admit of the segregation of large bodies of ore. The ores have been found in the form of veins or courses of ore, never very long, following the contect of the limerock and syenite. In consequence of the inconsiderable thickness of most of the limestone tracts, the ores, which are absolutely dependent on the presence of calcareous rocks, do not attain any great depth, but as the inferior limits of the limerock is approached, decrease pari passu in value, and the shoot of ore gradually vanishes in the eruptive rock.

In this portion of the Banat district occurs the only metalliferous deposit, that of Koschowitz, which is not in direct relation with the special content of the create of the form of the sample of the sense of the sample of the sense of the sample of the sense of the limerock is approached, decrease pari passu in value, and the shoot of ore gradually vanishes in the eruptive rock.

In this portion of the Banat district occurs the only metalliferous deposit, that of Koschowitz, which is not in direct relation with the special part of the sense of the create west Van company in apprent for the property, machinery, &c. The balance of 5592 shares will be a preferential and cumulative interest of 10 per stalline schistes, there can be little hesitation in a basin of crystalline schiste, there can be little hesitation in believing that the sense of the freat West Van character the company, as the West Van Company in payment for the property, machinery, &c. The balance of 5592 shares will be a preferential

rocks enclosing the copper and gold ores must also owe their exist-ence to the metamorphic action of eruptive rock. EMPRESSARIO. Maidanpek, Oct. 22.

FLAGSTAFF SILVER MINING COMPANY OF UTAH.

SIR,—A letter appeared in last week's Journal from Mr. Snell with a copy of a letter written by me as secretary of this company, containing an extract of a letter from the manager in Utah with respect to discoveries in the mine. I am directed by the board to inform you that a letter was ordered to be sent to the Journal with that information, together with a cablegram and its reply, but through a misunderstanding it was countermanded.

through a misunderstanding it was countermanded.

The extract was as follows:—

The mine is still looking very well. A new body has just been struck at end of 3rd evel 820 ft, from shaft, which I think is the best looking ore I have seen in the mine, much of it being of a rich yellow carbonate. It had not been sufficiently developed to determine its size, but seems very large. The foreman thinks it connects with that in the 4th level. There is a large ore pipe near the ends of the 3rd, 4th, and 5th levels, which I think is nearly continuous, that near the end of 5th level has pinched on the descent, but is still going up.

The directors are most desirous that the shareholders should have all the information thay have it in their power to give and on read-

The directors are most desirous that the snareholders should have all the information they have it in their power to give, and on reading the very glowing statement in the Journal on the 3rd inst., and believing the extract above mentioned did not bear it out, several members of the board dispatched the following cable to their manager: "Reported here that a wonderful quantity of rich ore had been discovered in — level; reply by cable." The reply received was "No." Notwithstanding the telegram, the board regard their manager's letter as earlieferdow. "No." Notwithstanding the A. A. DE METZ, Secretary. City, Nov. 16.

NEW QUEBRADA.

I think it desirable to intimate to the New Quebrada share holders through your widely circulated Journal, that the history of this company is about to be marked by the advent of an important epoch. We are not only in the near receipt of two cargoes of ore of a greatly improved grade, but the working of this great mining property—on a grand scale—is about to be undertaken by a wellknown mining firm of eminent standing, and arrangements looking to this important achievement are in the moment of final adjustment. When it is further intimated that the arrangement alluded to not only meets with the hearty approval and co-operation of the prominent house who have just completed the Bolivar Railway, as well as the ready support of the directors of the Quebrada Company, the importance of the movement cannot fail to be adequately appreciated. About 40 years ago the 20% shares of the old company rose, I believe—at least so I am informed—to 125%; and under the competent and experienced manipulation of the influential firm alluded to, the shares of the present company will give early and notable response to the auspicious influences now being set in ac-tion. I am led to writing these lines largely from the fact that the chares are, to my knowledge, being quietly drawn from the small warning and information to small holders who might without a hint decide to sell out at present prices, which I feel confident they would in a very short time sorely regret.

AN OLD SHAREHOLDER.

LEAD AND TIN MINES.

SIR .- A considerable time having elapsed since I ventured to ad-SIR,—A considerable time naving clapsed since I ventured to address you, a small portion of that space in your valuable Journal devoted to that purpose may perhaps be allowed me to allude to a subject of interest and importance to many of your readers. In January of the present year, remarking on a valuable contribution from the pen of Mr. J. Y. Watson, F.G.S.—I took the opportunity—whilst thanking that gentleman for the great service he had done to all interested in mining by his able literary productions—of suggesting that his advocating lead mines in preference to those producing ing that his advocating lead mines in preference to those producing other metals was not in accordance with my views of the best advice that could be given to the public. The following, I think, were my words,—"It will be noticed that Mr. Watson's remarks throughout the articles ("A Sketch of Mining in 1876") tend to recommend lead mines in preference to those of tin, copper, and other metals and he further advocates those producing that metal other metals, and he further advocates those producing that metal by his allusion to Mr. Murchison's book, which is entirely to that particular kind of property; but I would suggest that at this moment lead mines are selling at high prices, and that lead itself is so high that a further advance is not to be expected; therefore, any change that may occur will in all probability be adverse to the interest of purchasers at the present time. On the other hand, tin is so low that it is almost impossible for it to go lower, even supposing that Australian supply can be continued, and tin mines have been depressed to such an extent that any change which may occur in them must be for the better, and advantageous to those

occur in them must be for the Detter, and advances of who buy at present quotations."

Ten months have elapsed since I wrote these words, and my object in quoting them is not so much to show that Mr. Watson, F.G.S., and Mr. Murchison were incorrect in their views as to point out—I again quote my words of the same date—"That the public invariably buy when shares are at a high premium, and that they are seldom, if ever, known to buy when the same shares are decreased or offered at panic prices."

are seldom, if ever, known to buy when the same shares are depressed, or offered at panic prices."

Now, Mr. Editor, the public, no doubt, will admit that my suggestions were well worth consideration, and when they contemplate the drop in prices in Van, Roman Gravels, Tankerville, Leadhills, and other lead mines, they may be inclined to note a few ideas I have respecting tin mines. Tankerville and Roman Gravels appear, in consequence of the heavy fall in the price of lead, to have quite departed from the enviable position amongst dividend mines. Van must be a very heavy loser by the low prices, and if the position of Leadhills is no better than reported it is to be feared that its first year will be its best for some time to come. A drop of 4t, per ton in lead must make a difference to this extensive property of on in lead must make a difference to this extensive property of 0 per cent. on its annual produce, supposing its produce to be 50 tons of lead a month. The late rise in tin has increased the market value of mines pro-

ducing that metal as much as 100 per cent, and the result is, as it was with lead mines some time since, shares in Carn Brea, Tincroft, croft, and others, are selling for prices far above what is justified by the comparatively small rise. Let the experience of the past be a guide for the future.—Nov. 16.

A CAUTIOUS MAN.

[For remainder of Original Correspondence see this day's Supplement.]

ECHOES FROM THE MINING MARKET.

Generally speaking the mining market has been dull. Tin shares ave again become weaker, and there appears to be an impression hat a further rise in the standards can scarcely be expected yet Lead shares have attracted only a moderate amount of n. Rookhope, however, have been an exception, as they dy demand, and close firm. Great Laxey are also firm. North Laxey dealt in pretty freely, but show a rather weaker market at the close.

end of August last, and there is a balance of assets over liabilities of 1355!. Ab ter prive is being obtained for lead, and there appears every prospect of the mins foliag much better in the future. We are decidedly of opinion that the accurate should be brought up closer. At present they are quite two months. Arrear.

In copper mines the chief attention has been directed to Parys Mountain, which are firmer at 11s. to 13s.

Florated are better at 234 to 256, but Diagrams.

Trear.

In copper mines the chief attention and the first state of the

at 36 to 36.

The Mine Share Market, after the recent excitement, is not comparatively steady, and precisely the same may be said concerning the tin market. Weighing all the statements both for an against a further advance in the price of tin, there can be no doubt that the probabilities are greatly in favour of a further and considerable improvement. At a time like the present investors should not fail to take notice concerning the past, and it must not gotton that a very considerable rise has taken place in the price of tin after the sonchusion of a peace such as we shortly hope to see. It is also fair to assume the with the general improvement in trade will come an improvement in price into a summent of the such as a serie in the not far distance in the price pect as great a rage for mining securities as ever in the not far distance that the probably safe ground on which they are basing their calculations. All this, however, is no reason why great caution should not be exercised as to describe a such as exercised as the selection of mining securities, and as to the proper time to buy. The folly of rushing is and needs no comment. Lead properties are likely to maintain their groun and those which are paying such handsome dividends may reasonable expected command their full share of public support, but even in dividend mines there is time to sell as well as a time to buy, and looking at the nature of a mining securities is wise to keep this always in mind.—John B. Reynolds.

THE WEEK.

THE WEEK.

SATURDAY, Nov. 10.—To-day tin shares showed more strength, having revered from the weakness visible yesterday and the previous day. Delovath dos 3% higher. At West Godolphin they now start with a clear bod, and the microtimes to look well. Pateley Bridge was again in demand, and and the continues to look well. Pateley Bridge was again in demand, and and the continues to look well. Pateley Bridge was again in demand, and and the continues to look well. Pateley Bridge was again in demand, and and the continues to look well. Pateley Bridge was again in demand, and and the continues to look well. Pateley Bridge was again in demand, and and the continues to look well. Pateley Bridge was again in demand, and and the continues to look well. Pateley Bridge was a look of the continues to look well. Pateley Bridge and the continues a look of the last of the present accordingly, will most likely go higher. Richmond was stored to be a look of the last of the present accordingly, will most likely go higher. Richmond was stored to 2. Hingston Down, Y to 24. Marke Valley, Y to 19. See Sara Bridge to 19. See Sara

FOREIGN MINING AND METALLURGY.

The intelligence to hand with respect to the French coal trade merally favourable. In the Nord and the Pas-de-Calais there The intelligence to hand with respect to the Pas-de-Calais there is generally favourable. In the Nord and the Pas-de-Calais there is great activity; an advance is even mentioned in some cases of 10d, per ton. It is doubted whether there has been a real serious revival in affairs; a more definite conclusion upon this point will some be practicable. Upon the whole, however, the coal season of 1877-has certainly commenced better than could have been hoped some little time since. General Chabaud-Latour has been appointed President of the company owning the Anzin Works in succession to the late M. Thiers.

little time since. General Chabaud-Latour has been appointed resident of the company owaing the Anzin Works in succession to the late M. Thiers.

The intelligence to hand with respect to the Belgian coal trade continues dull and discouraging. Sales are effected with difficulty on both home and foreign account, and in the transactions which have taken place no serious or durable advance has been established in prices. It may be interesting to note that a Royal Commission has been appointed in Belgium to study the best means of extending the use of iron by new industrial applications. The appoinment of this commission has brought under discussion the question of using iron instead of wood in connection with the working of collieries. The Vezin-Aulnoye Colliery Company will not distribute any dividend for its current financial year.

No further important orders have been secured in Belgium for iron on foreign account. Negociations have been pending, but they do not appear to have come to much at present. Such work aspresent itself on home account is very keenly contended for. Thus the Monceau-sur-Sambre Company has offered to supply the Belgiam State Railways with 300 tons of iron fish-plates without bolts for ordinary Vignoles rails at 5l. 1s. 8d. per ton receiving payment to the extent of three-fourths in old materials, to be valued at 2l. 8a. per ton for ordinary cast-iron and 3l. per ton for Vignoles rails old rails and other materials have been recently offered for sale for cash in Belgium; the offers made for ordinary Vignoles iron rails and other materials have been recently offered for sale for owall of the respectable quantities purchasers of iron would of the respectable quantities purchasers of iron would of the present and for respectable quantities purchasers ranged from 2l. 4s. to 2l. 10s. 6d. per ton. Quotations, as well for new iron as for old materials, have shown some weakness in Bagium, and for respectable quantities purchasers of iron would obtain advantageous conditions. The price of Bessemer steel rais has fallen in Germany during the last four years to the extent of considerably more than 100 per cent. The fall in iron rails during the same period has not been quite so severe, but, nevertheless it has slightly exceeded 100 per cent. The Pegissa Forges and Roleing Mills Company will pay on Dec. 15 a dividend of 16s, pershar for 1876-7.

There is little fresh to report in connection with the French iro trade, the demand has been languid, and prices have remained about the same level as last week. Refining pig has been rathe neglected, for 2l. 10s. per ton, and even far less, it would be possible to purchase all the stock in the Meurthe-et-Moselle. In connection with an order for 10 000 terms of a relative consult given out by the to purchase all the stock in the Meurthe-et-Moselle. In connection with an order for 10,000 tons of steel rails recently given out by the Eastern of France Railway Company, it may be well to note that the Châtillon and Commentry Forges Company obtained one lot of 3000 tons at 81. 11s. 8d. per ton, one lot of 4000 tons at 81. 15s. per ton, and one lot of 3000 tons at 81. 18s. 3d. per ton. The other competing tenders ranged between 91. 6s. and 101. per ton. French is

Nov. 1

TH

due to

n to he tota This b d the fi ads to a feed-p ng from nmedia the outs

of hy

unication

represented by MM. Eiffel and Co., has just obtained a in Portugal, an iron bridge of 533 ft. span having been across the Douro at Oporto by the Royal Portuguese Rail-cont who entrusted the work to MM. Eiffel. The works pany, who believed Exhibition building at Paris have been advancing

Meetings of Bublic Companies.

YNYSFAIG SLATE QUARRIES COMPANY.

YNYSFAIG SLATE QUARRIES COMPANY.

sgeneral half yearly meeting of shareholders was held at the sof the company, 2. Gresham Buildings, Basinghall-street, on sof the company, 2. Gresham Buildings, Basinghall-street, on sly, — Dr. L. M. Thomas (a shareholder) in the chair.

E. W. FEARSON (managing director) reported that with the fitter of the street of the grey of the sign of a slight mishap the work at the quarries had been divided by the sign of a slight mishap the work at the quarries had been divided by the sign of the grey of the fitter of the Grove A fair amount of profit was being realised out of the Grove A fair amount of profit was being realised out of the Grove A fair amount of profit was being realised out of the Grove A fair amount of profit was being realised out of the Grove A fair amount of the street of the side of the

Japandace, althorising the making of a second call was then passed, share action and only to induce their friends to take shares, but also to in respect of their own.
and Mr. W. R. Morton (the latter of the Stock Exchange) were
and the proceedings closed with a vote of thanks to the Chairman.

SFOOT.—At a meeting of shareholders held at the mine y, the accounts showed a profit on the four months' work ly, the accounts showed a post over liabilities of 1355/.13..2d., is alance of 691/.11s.8d. The manager, Capt. T. Trevillion, ding his report, congratulated the shareholders on a generoment in the mine, and is sanguine that better days are in shall now not only believe in profits, but ere long anticipate d.—[The report is among the Mining Correspondence.]

For remainder of Meetings see to-day's Supplement.

THE VAN MINES-MONTHLY REPORT.

THE VAN MINES—MONTHLY REPORT.

salam's shaft is sunk 9 fms. below the 105. The cross-cut at the end is driven north 55 ft.; the last 6 ft. has been unproductive, although long loie, and I intend driving the cross-cut right into the footwall ighth of the 10cl. The 105 is extended west of shaft 62 fms. There mixture of lead on the north side of the level, but as we are aiming tim with the winze (which is 3 fms. ahead of us), we shall have of full in forebreast in about another fath om driving. The said below the 90 is down it fms. It., and we have about 3 fms. o be deep enough for the level; yielding good orestuff. The 90, is worth for lead ore 35%, per cubic rathom.

The four stopes, and in the several places where it is being stripped this in the sides of this level, cast and west of shaft, is worth on the 9s, per cubic fathom for lead ore. The average width of the lode is he 90 east is driven by four men by the side of the lode. The 75 is tof shaft 152 fms. At the present end we are crossing north, and in the end discovered nie ore ground, worth, so far as seen, about athom. The winze sinking below this level, at a point 90 fathoms is down 22 ft. The stopes in back of this level, nine in number, are average 20%, per cubic fathom; mean width, 18 ft. 6 in. The 75 fm. shaft, is pushed forward by four men, by the side of the lode. The leade to the full width at the points in the side of the lode. The needed to the full width at the points in the side of the lode. The leade to the full width at the points in the side of the lode. The slopes in the side of the lode. The stopes in the side of the lode of the lode. The slopes in the long of the file of the lode of the lode. The slopes in the long of the slopes to recall and 200 tons of the machinery next week.

We shall start more of the machinery next week. We are making good progress towards the tile huvan-floors. We shall start more of the machinery next week. We shall start more of the machinery next week.

GENERATION OF STEAM-DRY BOILERS.

trade 4

difficul

ns whi mmis f exter appo

ut they d

well for sein Belwould of steel rail extent of the steel rail extent of the steel rails during

ertheless and Roll

. per share

rench iron mained at evn rather pe possible connection

out by the note that one lot can lot c

fact well known among engineers that in practice 5 per cent. ifact well known among engineers that in practice 5 per cent. rabout 1-20th part, of the heatthat coal can produce, accord-heoretical calculations, is actually transformed into motive-and that consequently 19 kilos of coal out of every 20 are enst. It may with certainty be stated that the theoretical yof coal will never be practically realised, but the numerous is that have been made in this direction, and partly with show that a diminution of this enormous loss of heat is conpossible, and remains to be realised. The object of the indifferent production of Mr. T. R. RIETH, of Bonn, Rhenish Prussia, is to reduce himmum the most important cause of this loss of heat. This is due to the fact that the large amount of air which passes furnace, added to the products of combination, leads away s where that the large amount of air which passes a furnace, added to the products of combination, leads away elses manner into the atmosphere a large quantity of heat. a nidea of the enormity of this loss it is sufficient to state well constructed boilers of marine engines the temperature products of combustion arriving in the chimney is raised to entigrade, and that it attains even 300° in some boilers. This nature is sufficient to produce again at least the same quantity

would be sufficient to produce again at least the same quantity our at the same pressure as that of the steam already produced steam boiler, and that by employing it to vaporise a hydrostically speaking, it may be admitted that the temperature products of combustion in the furnace thus employed to value a hydrocarbon will be lowered to 100° of heat; there will, pendly, have been an absorption of heat of from 200° to 300°, which will have been carefulved to restrict the same transfer. ch will have been employed to produce motive power. A bon of any point of ebullition desired may be used. It will, be best to employ one whose point of ebullition is as low de, on account of condensation. To the objection of danger, it is sufficient to state that nowadays boilers are made steam-tight, that steam coming out of a little opening steam-tight, that steam coming out of a little opening take fire, because it would not directly touch the flames, ion to this, in employing dry boilers, or boilers without he total quantity of hydrocarbon stored will be so small to need be no dread of fire. oming out of a little opening

ne need be no dread of fire.

se, for example, the invention be applied to an ordinary signe, with steam-boiler of any construction, Mr. Rieth adds from a second boiler, destined to vapourise the hydrocarbon. This boiler, called "dry," is placed either behind the engine of the first boiler. The steam-pipe of the hydrocarbon vapour add to a second motor machine, which in working puts into feed-pump. The vapour coming from the cylinder of the machine enters a condenser cooled from outside. The gases at from the furnace after having left the steam-boiler do not mschine enters a condenser cooled from outside. The gases ms from the furnace after having left the steam-boiler do not immediately into the chimney as at present, but circulate the outside of the second boiler. At the same time each lift piston of the feed-pump drives back into the boiler a certain tity of hydrocarbon liquid. This quantity is measured exactly, at after its vapourisation it is sufficient to produce the necespressure to displace the piston in the steam-cylinder. After the after the steam-cylinder has reached the end of its course the number of the steam-cylinder has reached the end of the course the number of the steam with the condenser takes place by a valve. In this

manner a vacuum is produced, which in the return course of the piston produces the same effect as that in an ordinary condenser. At the same time the feed-pump takes at the proper time from the condenser the same quantity of hydro-carbon liquid, and drives it back into the dry boiler in such a manner that the vapour from this latter when the piston returns produces a motive force upon the other side of the piston. This action is repeated regularly, as in all ordinary condensers. To prevent the hydro-carbon vapour cooling too much in the cylinder or, on the contrary, augmenting its expansion, it is desirable to encase the steam-cylinder and the steam-pipe of the second machine. In this casing the steam from the first boiler is allowed to circulate. This last utilisation of steam presents a certain analogy to the proposition of Mr. Verdal, of Tremblay. The steam from the first machine having been used may also be led to a condenser after having served to maintain the cylinder and the steam pipes of the second machine warm, and, consequently, whenever possible it will be best to make the first machine serve as a condenser. If this does not do the steam may be added to the gases from the furnace to increase the draft after having served as before stated. With great care the point of ebulition of the hydrocarbon may be fixed once for all for each machine, as only a small quantity of hydrocarbon will be consumed in the boiler. It is claimed, moreover, that the boiler will not require repairing, because incrustation will be impossible, and because the back plate cannot be destroyed by fire.

For these reasons, in applying the invention to marine engines, additional hydrocarbon boilers can be placed in a separate place,

because incrustation will be impossible, and because the back plate cannot be destroyed by fire.

For these reasons, in applying the invention to marine engines, additional hydrocarbon boilers can be placed in a separate place, and if once for all the fasteningshave been carefully done the boiler may be left to itself. It need scarcely be stated that caoutchouc, or india rubber, must not be used for the joints, some fire-resisting material, such as asbestos, being necessary. It is claimed that the invention may be applied with advantage to all machines which have at their disposal sufficient water for condensing purposes, but it is especially applicable to marine engines of all kinds, because the advantage for them is double, seeing that the expense of firing is saved and much room is gained. The advantages which the invention is said to offer are very numerous, the most prominent of which appear to be that no extra expense for working is required, and that the boiler may be constructed having regard only to the pressure and to the greatest possible surface, and in accordance with the most complicated systems of boilers, with straight tubes or bent, which cannot be used for steam-boilers by reason of the difficulty of cleaning.

FERROUX'S ROCK DRILL AT THE ST. GOTHARD TUNNEL.

FERROUX'S ROCK DRILL AT THE ST. GOTHARD TUNNEL.*

M. Ferroux's rock-drill, which has been in operation since 1873 at the works of the St. Gothard Tunnel, has recently been much simplified in the mechanism for the feed and the percussion. The piston of the percussion cylinder is formed conically at each face for the purpose of reversing it at the end of each stroke. When it arrives at the end of the stroke it strikes a small plug, which slides in a cylindrical opening, and presses it inwards. This movement is simultaneously communicated by a lever to the small supply piston at the upper end of the cylinder by which the compressed air is shut off, and the exhaust opened. The percussion piston is then promptly returned to the upper end of the cylinder, where it strikes the small supply piston, and opens it for a fresh supply of compressed air, when the percussion piston makes the next down stroke.

stroke.

The rotation of the percussion piston and rod is effected by means of an inclined groove cut in the rod, in which a pall is engaged. The pall is one piece with a ratchet wheel, which turns freely with the pall as it is swayed by the groove in the descending piston-rod, but is prevented by a ratchet from returning. The pall being thus held stationary, the piston-rod necessarily aways to the pall in its turn, and makes a portion of a revolution, shifting the position of the jumper for each stroke. The weight of the new Ferroux drill is about 440 lbs. The calculated volume of air expended per stroke of the piston is 85 cubic inches.

By D. K. C.: Annales industrielles, 1877.

From JAMES FORERSY'S "Abstracts of Papers in Foreign Transactions and

* From James Forrest's "Abstracts of Papers in Foreign Transactions and Periodicals," for the Proceedings of the Institution of Civil Engineers.

AUSTRALIA.—From Melbourne (Oct. 4) we learn that the value of the imports for 1876 amounts to 1,133,000/., and that of the ex-

ports to 1,130 9832, which is an excess of 45,0072 over 1875. The export of gold amounted to 10,270 oz-4, and tin to 1616 tons. There is general prosperity in South Australia. A bonus of 10,9002 has been offered for the discovery of a coal field.

DECORATION OF TIN-PLATES.—Hitherto tin-plate has been decorated by direct impression or printing, but by the invention of Messrs. NEUBURG and Co., of Vienna, similar results are obtained without direct impression in a totally different manner, and more Messrs. Neuburg and Co., of Vienna, similar results are obtained without direct impression in a totally different manner, and more advantageously. Amongst these advantages may be mentioned that the backs of plates decorated in this indirect manner remain perfectly smooth, whilst in the direct process the back of the plate is more or less raised by the indents of the type. The outlines of decorations made by the present invention are also much clearer. In decorating tin-plate according to this invention sheets of paper are first coated with sizing, glue, gum, or starch, and the so prepared surface is then printed with any desired design, words, or letters in the ordinary manner, so that there will then be a layer of sizing, glue, gum, or starch between the printing ink or printing colours and the sheet of paper. The tin-plate to be decorated is carefully cleaned, then supplied with a very thin but equal coating of varnish and finally kept in a suitable oven or heating chamber until the varnish is half dry—that is, until the varnish when touched with the finger will just stick to it, but cannot be drawn into threads. The tin-plate so prepared is then laid in a press, the paper prepared as above is laid on the the tin-plate, and both are then drawn through the press. After both have been passed two or three times through the press the paper is damped with a wet sponge, and finally carefully drawn off so as not to be spoilt, as it can be afterwards again sized, printed, and used as above. The printing-ink and colours will then remain on the tin-plate, which is then cleaned with a wet sponge to remove the sizing, glue, starch, or gum which has remained on it after drawing off the paper. The tin-plate is finally supplied with a coating of varnish. It is preferred to use for this purpose a varnish composed of a mixture of asphaltum dissolved in turpentine, of copal varnish, and of linseed oil varnish. The mixture is allowed to stand for one or two days, and can then be used, turpentine being added until sufficient flu

PUMPS .- The object of the invention of Mr. JOHN MOYSEY, of London-street, is to construct a simple and efficient hand pump to deliver a continuous stream of water, applicable especially as a garden pump or syringe, or as a house fire-engine for immediate use in case of fire. For this purpose the barrel of the pump is provided at its lower end with an inlet valve and suction pipe; at the opposite end of the barrel is a stuffing box through which passes a hollow cylindrical plunger. The outer end of the plunger is closed, whilst end of the barrel is a stuffing box through which passes a hollow cylindrical plunger. The outer end of the plunger is closed, whilst at the inner end of the plunger there is a valve opening inwards. Through the top of the plunger passes a pipe which descends nearly to the bottom of the plunger; it is open at its lower end, whilst at its upper end it has a branch delivery pipe passing from it, to which may be connected a short length of flexible pipe terminating in a rose, or jet, or spreader. To the top of the pipe is also connected a handle by which the plunger can be worked to and fro. When the plunger is raised water is drawn into the barrel through the suction valve. When the plunger is forced down the water in the barrel plunger is raised water is drawn into the barrel through the suction valve. When the plunger is forced down the water in the barrel enters the plunger through the valve at its bottom and compresses the air in the upper part of the plunger, whilst some of the water is also expelled through the delivery pipe. When the plunger is again raised the valve at its bottom closes, and the water still contained in the plunger continues to be forced out through the outlet pipe by reason of the pressure upon it of the compressed air contained in the upper part of the plunger. The lower end of the barrel may

have a stirrup attached to it for the person using the pump to insert his foot into, whilst he works the plunger up and down with one hand by a handle, and at the same time holds the delivery jet with his other hand; or a lever may be used for working the plunger to and fro, whilst the barrel may be carried by a barrel or tank con-taining the water supply or otherwise.

COATING PLATES OF METAL.

It has been the practice heretofore after pickling and washing the sheets or plates of iron or other metal to be coated to immerse them in a warm pan of grease, technically called the cold pan, instead of which Messrs. Crowther and Morgan, of Kidderminster, place the sheets or plates in a hot-air chamber for the purpose of absorbing or evolving all moisture or dampness that may be left on them before immersing them in a bath of chloride of zinc, from which they restore them to the hot-air chamber to take all moisture therefrom; they then either put the sheets or plates direct into the coating metal pot, with sufficient grease or flux upon its surface, or, as usually done, immerse them in the cold pan, and then put them into the coating metal pot.

surface, or, as usually done, immerse them in the cold pan, and then put them into the coating metal pot.

The apparatus which they employ consists in a rectangular horizontally fixed pot, sufficiently long and deep to enable then to coat sheets or plates of any required length or width; the said pot in a transverse sectional form is broad at the top for receiving finishing rollers, with short lateral rollers to prevent lateral deflection of the long rollers which work below the upper surface of the pot, below which the pot narrows gradually down to one-half its depth, and then descends parallel to the bottom, leaving an opening at the end or side, whichever may be most convenient, to remove the excess of metal taken from the sheets or plates. On the front side of the pot near the top, and either inside or outside as most convenient, they apply a longitudinal shaft working in journeys, and to this shaft external weighted levers are secured, which are connected with and give motion to internal guide levers, of which there may be any necessary number, the use of which is to form guides for receiving the sheet or plate in an edgewise position, and guiding it down to the bottom of the pot to rest in a cradle, when the outside balance weights will a recet the position of the internal levers, causing them to bear against the top edge of the said sheet or plate as as to keep it in a vertical venition in which nextient in which nextient in which nextient is sentent. the outside balance weights will correct the position of the internal levers, causing them to bear against the top edge of the said sheet or plate so as to keep it in a vertical position, in which position it is raised by vertical rols or chains connected with the craile at the bottom, which is suspended to two levers working on the axis or shaft first described; the said levers extend sufficiently over the pot that by means of a weight suspended thereon a counterpois is created for elevating the sheet or plate to the bite of the longitudinal finishing rollers first referred to, from whence it is easily removed, the cradle being raised any additional height required by means of screws.

The motive-power of the finishing rollers is derived from com-

The motive-power of the finishing rollers is derived from compound right and left worm wheels with which the rollers are connected by short spindles or couplings. Suspended to the axis of each finishing roller is a pendent receiver that collects the surplus coating metal, which is removed from the surface of the sheet or coating metal, which is removed from the surface of the sheet or plate under operation by the action of such roller, the coating metal by reason of its gravity falling from the surface of the roller into the receiver, which performs a double duty of catching the surplus metal from the sheet or plate and feeding the surface of the rollers. These receivers are constructed with hollow chambers at the bottom, through which hot-blast is driven in a highly rarefied condition to maintain the metal in a higher decree of heat than the surrounding flar or greece. flux or grease.

RAISING AND LOWERING WEIGHTS.—The apparatus invented by Mr. A. HARRISON, of Lincoln, consists of a frame between which are two chain or sprocket wheels, each in a piece, with worm-toothed wheels, which receive their motion from a central worm or endless screw formed upon a shaft receiving its rotation to the right or to the left by bevil gearing and hand chain wheel from outside the frame. The lift chain is a single chain, and one end which is loose, is allowed to run freely over either of the lift chain wheels, the lift chain getting its grip for lifting purposes by the bight between the wheels by the links taking partly into each of them. The chain runs up between the two wheels and has its load attached to a hook at its bottom end. The two chains lift wheels are of the same diameter, and their centres are truly horizontal one with the other, at equal distances from the vertical centre of the worm axis or shaft so that they travel at the same speed and lift the chain between them. The shaft of the worm is stepped at the lower part into a portion of the frame, and its upper part is within an eye or boss of the same casting, which as part of the frame is securely held to the other at its upper part by bolts at the socket of the suspension hook, and at the bottom by the axle bolts which carry the lift chain wheels. The hand wheel on the outside is also a sprocket wheel for an endless chain to pass over, and by which the apparatus can be worked when suspended by its hook to the projecting end of a crane, jib, or otherwise. A stoppage of the motion of the apparatus enables the load to be suspended, and a reverse motion of the hand wheel permits it to be lowered.

Pumps.—With a view to obviate all liability of the the valves of

Pumps.—With a view to obviate all liability of the the valves of the pump being obstructed during frosty weather by the freezing of an accumulation of water collected above them, thus preventing the bursting of the barrel of the pump and suction pipes in frosty weather, Mesers. Bell and Blaeburn, of Newcastle-on-Tyne, have invented some important improvements. They form on the suction valve a stem or neck extending upwards therefrom, and provided with a flange on its extremity, which stem or neck is embraced immediately beneath the flange by the arms of a bifurcated tumbler or focking lever mounted on a centre or fulcrum in a guard piece fitring the barrel of the pump. The guard piece is made of such a torm as to control the lift of the valve, and also act as a guide for the stem in its motion, and the tumbler or rocking lever is provided with a projection of such a shape tnat when the bucket is lowered by the act of raising the handle of the pump, which is connected to it to its full height, when the pump is at rest the bottom of the bucket will come in contact with the projection of the tumbler or rocking lever and depress it, thereby elevating the arms, and consequently the suction valve, by their acting upon the flange of the stem, and allowing of the escape of any water which may have remained above the valve, of the bucket being discharged simultaneously, or nearly so, by the lifting of the bucket valve, by its buttom being brought into contact with the flange of the stem of the suction valve also described as the stem of the suction valve also described as the stem of the suction valve also described as the stem of the suction valve also described as the stem of the suction valve also described as the stem of the suction valve also designed as imultaneously, or nearly so, by the lifting of the bucket valve, by its butter being brought into contact with the flange of the stem of the suction valve also designed as multaneously, or nearly so, by the lifting of the bucket valve, by its butter of the succion PUMPS .- With a view to obviate all liability of the the valves of to being brought into contact with the flange of the stem of the suction valve during the same downward movement of the bucket, or upward movement of the suction valve.



Date. Nov. 15-Van

EAST BASSET.—A sale under the direction of the Stannary Court was held on Monday, when there was a very fair attendance of purchasers, and the prices realised were quite up to the average of recent sales. The engines were not sold, but the whole of the pitwork and many other articles were disposed of.

FALLING OFF OF STRAITS TIN.—A gentleman has lately returned to Camborne, from Southern India, who has spent a considerable time in the districts of Banca and the Straits. Conversing an evening or so since with some of his old acquaintances, he stated from his own observations that the fin supplies from that quarter have fallen and will continue to fall off. All the alluvial tin deposits are all but exhausted, there being at present no other alternative but to sink in the hard rock with the erection of costly machinery, &o., which must necessarily be required. Considering as well the present low prices he was certain that the diminution in a very short time will be greater.—West Briton.

WATSON BROTHERS' MINING CIRCULAR.

Ten years ago the weekly information which had previously been published for a great number of years in WATSON BROTHERS' Mining Circular was transferred to the columns of the Mining Journal, with he following announcement; which is now reproduced in consequence of the numerous letters and enquiries handed to them of late in reply to one which appeared in the Journal on the Clementina Mine.

The great extension of mining business, the difficulty so often complained of by country shareholders in getting accurate and disinterested information as to the state of Cornish and Foreign Mines, and of the financial and real position of mining companies generally, have induced Mesers. Warson Brottness to make their Circular now published in the Mining Journal more extensively known, and active.

their Circular now published in the Mining Journal more extensively across on state—
That they issue daily to clients and others who apply for it a Price List (as supplied to most of the London and country papers), giving the closing prices of Mining Shares up to Four o'clock.

They also buy and sell shares for immediate cash or for the usual fornightly settlement in all Mines dealt in on the Mining and Stock Exchanges, at the close market prices of the day, free of all charges for commission. They deal also, on the same terms, in the Public Funds, Railways, Telegraphs, and all other Securities dealt in upon the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any particular mine for their clients, for the inspecting agent's fee of £2 2s.

In the year 1843, when mining was almost unknown to the general public attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1883), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and sharedealing than there is at present; and from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services and advice to all connected with mines and mining.

with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

WATSON BROTHERS, MINEOWNERS, STOCK AND SHARE DEALERS, &c.,

1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

1, ST. MICHAELS ALLEY, CORNHILL, LONDON.

D'ERESBY MOUNTAIN.—Ever since we visited this mine and wrote a description of it in this place we have strongly recommended it to our readers. It is great satisfaction, therefore, to find it turning out so well. Of the lode we referred to last week our agent now writes:—"The best lode I have seen since I was underground in the Van six years ago is at D'Eresby. It would be worth your while to come down to see it. For 24 ft. wide it produces lead in good paying quantities, and for 10 ft. wide is a splendid lode; nothing to do but blast it down." The agent writes that four men broke 2 to 3 tons from it last week, and six men can break 10 tons per month. This discovery is in No. 4 adit, at the mouth of which a water-wheel and crusher are to be erected. The transway is in, and the ore has only to be broken and trammed a short distance to the place for the machinery. As there are only 512 shares (20), paid), and all in private hands, the price is entirely matter of negociation at present. A great desire has been expressed to subdivide the shares into a larger number, and this, we understand, will be taken into consideration shortly.

Great Laxey.—Although the great riches of this mine have been found in depth—and there is a general notion that it is useless to look for mineral at shallow levels in the district—it is not altogether correct, for at the present moment the richest lode in Great Laxey is in the roof of the adit level, going up towards surface, and it is worth here 1000, per fathom. This, too, is at the extreme north part of the sett, towards North Laxey and Glencherry. There is no reason, therefore, as one correspondent seems to think, that nothing can be found at Glenroy shallow. A good course of ore may yet be met with in the shallow workings, though the shalt is the main point to get on with. The main lode at Great Laxey splits into two going north, one part passing through North Laxey, the other through Glencherry, and it has been a disputed point for some yea

have obtained this sett, and it might have made success certain.

Saturday, Nov. 10. — Market for the shares weak, Pateley Bridge, Parys Mountain, and Rockhope lead firm at quoted prices. Carn Brea, 80 to 52½; Dolcoath. 35 to 40; South Condurrow, 9½ to 9½; Timeroft, 17 to 19; Grenville, 3 to 3½; Great Laxey, 21½ to 22½; Pateley Bridge, 2½ to 3; Rookhope Lead, 21s. to 28s.; Ghenrey, 15s. to 29s.; Tankerville, 5 to 5½; Parys Mountain, 11s. to 13s.; Wheat Basset, 17 to 19; Van, 32 to 34; West Tolgus, 69 to 71; Richmond, 9½ to 9½; Eberhardt, 7 to 7½.

Monday, Nov. 12 — The demand to-day has been chiefly for Vans, Great Laxey, Pateley Bridge, and Parys Mountain. Its shares again quiet. Van, 32 to 34; Great Laxey, 21½ to 22½; Pateley Bridge, 2½ to 3½; Parys Mountain, 11s. to 13s.; Leadhills, 4½ to 5; North Laxey, 10s. to 12s.; Rookhope Lead, 21s. to 23s.; West Wye Valley, 3 to 3½; Dolcoath, 36 to 38; South Condurrow, 9½ to 9½; Tincroft, 17 to 19; Carn Brea, 60 to 52½; East Van, 3 to 3½; Theoroft, 17 to 19; Carn Brea, 60 to 52½; East Van, 3 to 3½; Theoroft, 17 to 19; Carn Brea, 60 to 52½; East Van, 3 to 3½; Glearoy Lead, 15s. to 20s.; Great Laxey, 19s. to 11s.; Parys Mountain, 11s. to 13s.; Pateley Bridge, 2½ to 3½; Susth Condurrow, 9 to 9½; Tankerville, 5 to 5%; Tincroft, 17 to 19; Van, 32 to 34; West Chiverton, 13 to 14; West Chiverton, 12s. Roman Gravels, 7½ to 8; Rookhope Lead, 21s. to 23s; South Condurrow, 9 to 9½; Tankerville, 5 to 5%; Tincroft, 17 to 19; Van, 32 to 34; West Chiverton, 13 to 14; West Pateley Bridge, 1½ to 29; Stephardt, 7½ to 75. Florentiff, 25 to 5%; Stephardt, 7½ to 75. Florentiff, 25 to 5%; Stephardt, 7½ to 75. Florentiff, 25 to 15%; New Openada, 20 25; Jahle, 8, to 8; Rockhope Lead, 21s. to 23s; West Chiverton, 13 to 14; West Pateley Bridge, 1½ to 29; Stephardt, 7½ to 75. Florentiff, 25 to 5%; New Openada, 20 25; Jahle, 8, to 5%; East Pateley Bridge, 1½ to 29; Stephardt, 7½ to 75. Florentiff, 74 to 75. Fl Meat Chiverton, 32 to 14: West Pately Bridge, 1½ to 2: West Toigus, 89 to Greaville, 3 to 35; Feevor, 5 to 65; Richmond 9 to 94; Etchardt, 7½ to Flagstaff, 23 to 25; New Quebrada, 2 to 23; Javali, 6s. to 8s. EDNESDAY, Nov. 14.—The dealers are principally engaged with the settlet, and quotations are about the same as yesterday. This shares are a shade

ent, and quotations are about the same as yesterday. Tin shares are a shade rmer.

THURSDAY, Nov. 15.—Tin shares generally flat, and in most cases offered at the street of the street o

"The Rainbow:" a magazine. Edited by the Rev. Wm. Leach D.D., &c. (Elliot Stock, Paternoster-row). The November number of this magazine, devoted to the revealed future of the church and the world, has just been issued, and as the Mining Journal circulates largely in parts of the country where the people take great interest in religious matters we call attention to it. Besides, most of our readers study geo-logical, mineralogical, mechanical, and chemical subjects, and few of our magazines in religious matters we call attention to it. Besiden, most of our readers study geo logical, mineralogical, mechanical, and elemical subjects, and few of our magazines possess articles so original and remarkable, on physical as well as spiritual subjects, as "The Rainbow." The present number contains a very original and termed article on "Cherub Phenomena," by W. Moniss, M.D. There is an able and interesting review of "Mill on Total Extinction of Death," which is at once philosophical, me taphysical, and theological. We all feel interested in the future, man has a longing to know something of times yet distant before us, and especially of those that are at hand. There is an article by N. Starkey full of light, headed "Things which Must Shortly Come to Pass."

HOLLOWAY'S OINTMENT AND PILLS-GOUT, RHEUMATISM, SCI ATICA.—These maladies are always more or less connected with disorder or dease of the digestive organs, hence the facility with which they yield to Holloway remedies temporary alleviation immediately follows the proper application of the soothing ointment, while the pills, taken internally reduce the digestive function of the order and avert all inflammatory tendencies. Nervous invalids will derive as and consolation from the influence of these medicants, which are free from merculand all noxious ingredients. Holloway's celebrated ointment and pills preser at a trifling outlay, the means of preserving the health or uprooting diseases which are assalled the body through accident, luxury, indolence, or other causes.

Mining Correspondence.

BRITISH MINES.

BRITISH MINES.

ABERDAUNANT.—S. Toy, Nov. 14: The new shaft is now sunk 15 fms. 5 ft. below the drep adit level. It will take the men nearly all this week to square the bottom of the shaft and cover it over, when we shall begin to drive the cross-out. ASSHETON.—J. Craze, J. Manley, Nov. 15: As under we beg to hand you our setting report for the month ending Nov. 8:—The 62 east of boundary to drive by four men, at 7l. 10s, per fathom; the lode here is 2½ ft. wide, composed of spar, blende, mundic, and a little lead; this end lets out a great quantity of water, which almost overpowers the engine. The lode, on the whole, presents a better appearance than for some time since. The 50 east of boundary is set to drive by two men, at 7l. 10s. per fathom; the lode is 2½ ft. wide, and we are opening out good tribute ground for lead ore. The 20 east of Mawr, south on the north and south lode; the men are now engaged cross cutting west to prove the value of the lode. We are through one portion of the lode about 1½ ft, wide, of spar, blende, mundic, and lead; opening tribute ground for the latter. We shall continue the cross-cut a little further in order to fully test the lode. The rise in the back of this level towards red sink is taken by four men, at 3l. 10s. per fathom; we hope to communicate with red sink workings this month, where there is a rich lode reported to be. We have set the following tribute pitches. Two men in the back of the 5½, east of boundary, at 3l. 10s. per ton. Two men in the back of the 50, east of Mawr's, at 7l. per ton.

Two men in, the back of 50, east of Mawr's, at 7l. per ton. Two men in the back of the 50, east of Mawr's, at 7l. per ton. Two men in the back of the 20, west of Mawr's, at 7l. 10s. per ton. Two men in the back of the 20, west of Mawr's, at 7l. 10s. per ton. Two men in the back of the 20, west of Mawr's, at 7l. 10s. per ton. Two men in the back of the 20, west of Mawr's, at 7l. 10s. per ton. Two men in beak of the 20, west of Mawr's, at 7l. 10s. per ton. Two men in the back of the

BODDINGS.—Nov. 14: I have no change to report in any point of operation throughout the mine this week.

CAMBRIAN MINES.—Thos. Glanville, Nov. 15: Esgair-Fraith.—Eastern Shaft: The north part of the lode is taken down 9 fms. above the bottom of the shaft. The lode continues to be rich for copper ore, and with every indication of the ore lasting to the 10 fm. level above. All the other parts of the mine are without alteration to report on.

CARGOLL.—John Jennings, Nov. 15: Bowyer's Shaft: The lode in the 34 west on the No. 4 branch has just formed a junction with the south lode, which together are about 4 ft. wide. Producing solendist stores of lead, and some blende, with very

OARGOLL,—Join Jennings, Nov. 15: Bowyer's Shaft; The lode in the 34 west on the No. 4 branch has just formed a junction with thesouth lode, which together are about 4 ft. wide, producing splendid stones of lead, and some blende, with very promising indications of a course of lead in extending westward. Just behind this end we have driven a cross-cut south 6 ft., and intersected the south lode, which is precisely of the same character as at the present end west. The lode in the winze sinking below the 24, west of shaft, and 2 fms. before the 34 end, is 2½ ft. wide, and no north wall; the lode is of a beautiful sandy nature, producing a good branch of lead, and some parts of the lode have been worth 36. per fathom. This winze is 6 fathoms below the 24 level, and I expect to see a further improvement here very soon. No. I stope in the bottom of the 24, east of shaft, is worth 36. per fathom. There is no change to notice in the 24 and 34 ends, east of shaft; both are at present poor. The adit level, west on the main lode, is occasionally producing branches of lead in the lode.

of lead in the lode.

CLEMENTINA.—John Roberts, Wm. Bennetts, Nov. 14: At the 34 we have cut the plat, and the end is now 4 fms. from the engine-shaft; when about 2 fms. from the shaft we cut some branches which let down the water entirely from the bottom of the 25. As we have scarcely yet driven the mean distance of the lode from the shaft as seen in the levels above, we expect that the main part of the east and west lode is yet to be cut. The lode on which we are driving is about 1 ft. wide, and producing good work for the dressing-floors. We have commenced a winzer from the 23 to the 34 by four men; here the lode is worth 1 ton of lead per fm. We are now dividing and casing down the shaft to the 34, and shall shortly be ready to draw from that level.

COMBMARIIN.—E. Hosking, T. Comer, Nov. 15: Since our last advice we have opened on the backs of four lodes, west of Newton's cross-course, near the

MBMARTIN.—E. Hosking, T. Comer, Nov. 15: Since our last advice we opened on the backs of four lodes, west of Newton's cross-course, near the y. Two of these lodes are looking very promising, composed of quartz and an, with spots of silver lead, and carrying a flookan or eo n the footwall. We now continue to sink on No. 2, and then drive a cross-cut north and south, tersect the other lodes at a greater depth. The ground is very favourable for ing. The lode in the 28, east of Harris's, is without change. The lode in the eat is a little improved, and yieldidg stones of silver lead. Good progress is g made in clearing and securing the 15, east of Harris's shaft; there must been a good lode about this level, as we are meeting with good stones of lead es stuff. We have to-day taken out one that will yield quite 1 cwt. of rich relead ore.

have been a good note according to the term of the stoff. We have to-day taken out one that will yield quite 1 cwt. of rich silver-lead ore.

CWM D V FOR.—Joseph Jewell, Nov. 15; In driving the 20, west of Stewart's shaft, we find the lode is split into several branches. I have directed the men to ent into the south side, believing that the main part of the lode was in that direction, and last night the men discovered another branch about 6 in, wide, composed of quartz, sulphur, and a little lead; all the branches contain a little lead, and altogether the lode matter is from 4 to 5 ft. wide. I believe we are now at the point of the horse similar to that met with in the 10, only, owing to the dip of the strata, we find it about 3 fms. further west; the lode and the surrounding strata are greatly disturbed by this throw. I shall push on the driving of this level on the south part of the lode, as from the indications I believe that the north part of the lode, which is divided by this horse of porphyry, will soon unite with the main part, and we may then look forward to meeting with a productive lode, as the ground will become more settled as we advance under the western hill.—Stopes: The lode in the stope over the back of the 10, east of Stewart's shaft, the lode at the present time yields from 10 to 15 cwts. of good lead ore per fathom. In the stope over two a good peth of leads off from these stopes. I am to-day hashing a pile from the 20.

From win described here extends a we alwance inner the western lim.—Stopes: The lode in the stope over the back of the 10, west of Stewart's shaft, yields I fowls. of lead ore per fathorn. In the stope over the back of the 10, east of Stewart's shaft, the lode at the present time yields from 10 to 15 owts. of good lead ore per fathorn; this is a trial piece of ground, and I am glad to see it looking so well. I shail haul to the surface in a day or two a good pile of leadstuff from these stopes. I am to-day hauling a pile from the 20.

CWM LLANERCH.—Charles Kneebone, Nov. 13: We have now cleared and secured the deep adit level for its entire length, put in stull in the back of the level, and male it ready for carrying on regular operations a distance on the line of the main lode of 35 fathoms, or from the engine-shaft to the forebreast of 40 fathoms, the whole of which is productive for lead ore. A great part of the back of the level has been worked up to within 4 or 5 yards of surface on the leader or more solid parts of the lode, but it has not at any place been stripped down to its full with, and several good ribs of lead are in sight that should work at a tribute of about 21. Per ton as soon as we are ready to let work of this description. Two shafts have been sunk. The No 1, or ongine shaft, a little to the south of the mouth of the adit, was commenced in a nice bunch or lead ore, and sunk on its course to a depth of from I to 12 fathorns, and about 4 fathoms deeper than the bed of the River Conway, with rich lead going down. A level was driven from the bottom of this shaft to the boundary of the river, and passed through the lead in a southerly direction, and the dip of the strata and the ore in the vein at that point would appear to indicate that the whole has a regular inclination into the mountain northward. No level was driven northward from this shaft, which is standing whole from too indicate that the whole has a regular inclination inthe the mountain northward. in the roof of the level, but leaving many fathoms whole to surface here, which the sole of the level is in whole ground. The forebreast is in a very powerful lode, producing good lead, and having the sppearance of again entering a course of lead ground, and as we must be close to a well-known productive E and W. lode I look to our noon getting to profitable ground by continuing this level on the main loie. When this loie was first discovered by making the road, &c., by the railway company, a similar parallel loide was found a few fathoms to the west, and lose lumps of lead were found, and one of the miners we employed informed me that he had no doubt he saw an open lode, in which the pushed a bar in 5 or 6 ft. of rich gossan, and precisely similar in character to the lode in the present opening; and as we have at the forebreast backs of from 10 to 12 fms. I would suggest that we cross-cut westward to this new lode, where we have every probability of finding a parallel burch of lead. Old Cwm Lian-rch, embraced in this sett, which is about 150 fms. east from our present operations, was extensively wrought by shallow workings on a junction of north and south and east and west lodes by a succession of dits and surface openings, both east and west and north and south from the junction, but as they had no machinery of sny kind they shallow workings on a junction of north and south and east and west lodes by a succession of dits and surface openings, both east and west and north and south from the junction. The Ender and North Westers Railway, which passes through part of these similow workings on a junction of north and south and east and west lodes by a succession of dits and surface openings, both east and west and north and lose of the control of the railway and tumpike road only a few yards deep, in which a rich course of lead is most promising for lead from the different veins in the cutting, and saids should be sunk about 14 or 15 fathoms deep to the innerion of the railway and tumpike road only a few yards de

from this date. By continuing operations northward and westward from the two points we shall reach first the junctions of the rich old Aberllyn veins, no and south, and the Penalt veins, east and west; the forms proved rich on boundary, and the latter now producing good lead in our northern levels driven where the course, and desorbed and samples sent just one westward on their course, and desorbed and samples sent just one westward on their course, and desorbed and samples sent just one westward on their course, and desorbed and samples sent just one westward on their course, and desorbed and samples sent just one some mone that can be so cheaply and effectively wrought to same content. At the same time a level should be driven northward from the bottom of 2.2 shaft, will open good stoping grounds of that direction. The place for engine-shaft will open good stoping grounds of that direction. The place for engine-shaft rise to surface above No. 2, and make this our permanent shaft, as it is in centre of the ore ground, and we shall thus draw our leadstuff high enough our water supply and dressing floor, and have ample tip ground for debrig in our water supply and dressing floor, and have ample tip ground for debrig we should not have at No. 1 shaft from its close proximity to the railway. It gether with dressing machinery.

DERESEY MOUN PAIN.—John Roberts, W. Bennetts, Nov. 14: The lode the No.1 add its not quite so rich for blende as when last reported; worth; I we have removed to the hose taken does not be the surface of the north of blende per fathon, with good stones of lead. No lab been taken does not be the surface of the surface and the provent of the north surface and the north surface

D'ERESBY MOUNTAIN.—John Roberts, W. Bennetts, Nov. 14: The lode the No. 1 add it is not quite so rich for blende ās when last reported; worth 1 of blende per fathom, with good stones of lead. No lode has been taken down the No. 3 add to since last report. We have removed the men from the Hana; in the No. 4 add to the gorse lode, where we discovered the lead that we repolast week. The portion of this lode which produces lead is from 20 to 30 to 30

spiends fode. We have been prevented from clearing the dependent is spiends fode. We have floods. As soon as the water abates we will put six means as possible.

DENBIGHSHIRE CONSOLIDATED.—J. Pryor, Sept. 18: We have resum the driving of the 112 cast, and are working the fan to convey air to the mean we are through in the west. There has been a gradual change in the mean we are through in the west. There has been a gradual change in the mean we are through in the west. There has been a gradual change in the means we are through in the west. There has been a gradual change in the the mean we are through in the west. There has been a gradual change in the the mean we are through in the west. There has been a gradual change in the the means we are through and the same remark will apply to the mean the ground between can be of the gradual through the same remark will apply to the mean in the root hour. The mean are heard more plainly at work daily, so that the quantity ground between can be of no great extent.

DERWENT.—John Morpeth, Nov. 15: We have no change in any of the less or cross-cut, except the level under the 70, west from sump on Sun vein, which looking more promising. The stope east of sump on that vein view, which looking more promising. The stope east of sump on that vein view, which looking more promising. The stope east of sump on that vein view, which over the 93, east of Jeffrie's shaft, on middle vein, are producing 30. The stop over the 93, east of Jeffrie's shaft, on middle vein, are producing 30. We will also were the 93 the same vein looks more kindly, the respectively we way, 14 to ever the 93 the same vein looks more kindly, the respectively we will a veit westgarth's, on middle vein, yields 10 cwts. of ore per fathom. The stope over the 74 westgarth's, on middle vein, yields 10 cwts. of ore per fathom.

EAST DARKEN.—Nov. 14: In the 89, east of the western cross-cut, the lode in the will western cross-cut, is 3 it, wide, yielding 1 cwts. of lead ore per fathom. The lode in the will be suppl

at 7. per cubi: fathom.

It 7. per cubi: fathom.

WHEAL LOVELL—Richard Quentrall, Nov. 14: The lode in the two with is not so large as it was; sinking by six men, at 28, per 100 west the ground is a little more favourable; driving by six men, at 20, per 100 west the ground is a little more favourable.

ore about 7. per cubi- fathom.

EAST WHEAL LOYELL —Richard Quentrall, Nov. 14: The lode in the win below the 100 west is not so large as it was; sinking by six men, at 26. per fathom. We are driving the 50 east by four men, at 126. per fathom. We are driving the 50 east by four men, at 10. per fathom, los and 11. The cross cut towards the north lode at the 40 is being driven by six me, at 17. 5s. per fathom, and from the favourable channel of ground we are pasis through 1 think there is a fair prospect of finding the lode productive.

GLASGOW CARADON COMSOLS.—W. Taylor, W. J. Taylor, Nov. 13: To are making good ore, and letting out water, which has drained the winze better of the 75, the sinking of which is again resumed by six men. We expect to have about 2 fathoms more to drive at the 50 to cut the lode; we shall then drive estuncies the winze and communicate, which will open good ore ground. The wise should be sufficiently only the control of the 75 is worth 15t. per fathom; not carrying all the idea aground easy for sinking; this is strongly in favour of opening a good lote at the 50 to cut the 10st per production of the 78 east we are still driving south, and are expecting to cut the mapart of the lode almost daily. The 78 west, on south branch, is opening tributed to the south of the 10st per fathom, and are expecting to cut the mapart of the lode almost daily. The 78 west, on south branch, is opening tributed or one of the south of the 10st per fathom. The stopes and pitches throughout he may be cooking very well, varying in value from 15t. to 26t. per fathom. We agreting to a the mare looking very well, varying in value from 15t. to 26t. per fathom. We agreting on with skip-road and drawing gear at the new shalt as fast as posible and hope soon to get it all ready to work. We sampled yesterday (computed) and hope soon to get it all ready to work. We sampled yesterday (computed) and hope soon to get it all ready to work. We sampled yesterday (computed) and hope soon to get it all ready to work. We sample

The lode in the 25 contains a muse was a new proof, which will be done.

GOGINAN AND LEVEL NEWYDD.—November 14: The worthy of remark in the different points of operation undergrort of last week. At surface everything is being pushed on wipatch, and we hope to complete the alteration to the jig to mowrk. We hope the result will be satisfactory. Samples of 40 lity of silver lead ore were sent out y-sterday for sale on the 96 GORSEDD AND MERLLYN CONSOLS.—W. Edwards are improving, some fine rocks of ore being drawn up this are improving, some fine rocks of ore being drawn up this manner.

on silver rean ore were sent out y-sterday for sale on the 96th inst. OFRSEDD AND MERLLYN CONSOLS.—W. Edwards, Nov. 15: improving, some fine rocks of ore being drawn up this morain tero end, and the ground is not so hard as it has been. In the in tern level there is a rib of solid lead about 3 in. wide. In the same lode looks much bettez than it did at the time of my last report line has arrived, and we are now busy erecting it at the north side of easing. Floor: We sold on the 8th linst. 50 tons of lead, realising 1 ton.

beighte has arrived, and we are now ousy erecting it at the norm love a songle Dressing, Floor: We sold on the sth inst. 50 tons of lead, realising 13, 156, per ton.

GREAT DYLIFFE.—Evan Evans, Nov. 13: There is no change of any portance to notice in our workings on the Dyliffe lode this week, owing it breakage of the wire rope, which has hindered our operations there for the nine days. The new lode, I am glad to say, is certainly improving every less that days. The last 9 ft. we sunk through is worth 1 ton per fm. We have also we go down. We have had very good ore from the wince during the stad asys. The last 9 ft. we sunk through is worth 1 ton per fm. We have also so for taken from the outcrop. By opening the 95, east of Bradford shaft, a night ago, we found good ore in the bottom of the level, and 6 fm. below in searching for the ore above mentioned, we found a midway level driver 3 to 4 fms., but not long enough to reach it, owing, we believe to the fact that ground in this part of the mine is dipping east. We set four men to drive in place at 44. 10a, per fathom for 2 or 3 fms., and to day there are strong indicated that the ore is near. We shall have more to say about this next week.

GREAT LAXEL.—W. H. Rowe, Nov. 7: What we hope will prove at land change is just now taking pinace in driving the 235 end south of englised where from being almost barren, the lode is showing fair indications. The W shaft is sinking in a lode yielding average stuff for the washing floors. It ent north is worth for the part of the lode carried 34t, per fathom. The 23 is now approaching a point where the two branches of the lode diverge, and certain that this level will be carried upon the ore-bearing one we are laying to sink a winze at the southern end of the ore ground at the 210, which to sink a winze at the southern end of the ore ground at the 210 which to sink a winze at the southern end of the ore ground at the 210 which to sink a winze at the southern end of the ore ground at the 210 which to sink a winze at the south

Nov. 1

LL (THE haft. Di NEAR. Nov. 111, the cross-cut. From the north winze at the 190, which is sunk ables north of the cross-cut. From the north about 15 fathoms through a serving lo said 11 fathoms, we have driven north about 15 fathoms through a serving lo value from 10 to 12 cwts, per fathom. From the present north bis serving low value from 10 to 12 cwts, per fathom. The whope to explore the sound there is about 20 fathoms of ground. This we hope to explore similar a communication before another meeting, and shall then have a good similar action of the sound of the sou

are in store for us, and shall now not only before long believe in michapta a dividend.
Intelpata a dividend.
No JOWN CONSOLS.—T. Richards, Nov. 15: Balley's Shaft: In the No JOWN CONSOLS.—T. Richards, Nov. 15: Balley's Shaft: In the log is for dividencing good stones of ore. In the 172 east the lode is of second to the log is of second to the log which is the log is of second to the log west of the log is of second to the log is wince, the lode is worth 6 tons, or 18. per fathom. In the crosslog wince, the lode is worth 6 tons, or 18. per fathom. In the crosslog east of Chynoweth's rise, towards the north part of the lode, there

ge. BUSH.—H. Bennett, Nov. 15: The 60 end, west of engine-shaft, has

—H. Bennett, Nov. 15: The 60 end, west of engine-shaft, has perper. There is no particular change in any other part of the mine perper. The machinery is in good working order.

1.—Nov. 10: Setting Report: The sumpmen to drive south at the his holde, at 10/l per fathom; we have every reason to believe his point will be found productive. The 50 to drive east, by six per fathom; the lode here is 3½ ft. wide, producing about 2 tons ir fathom, also some low quality instense; it is of a very promising reflection of the state of the state

ay-day for two months each, are producing about the usual quan-deopper. CONSOLS.—J. Chynoweth, Nov. 15: Fair progress has been made. fm. level west of engine shaft; the lode is 4 ft. wide, composed of of lead, blende, quartz, &c.—a very promising lode for a speedy fm-No are very busy engaged with 12 men stoping the bottom of the make the level good to the present end, and, also to get in the tram-sint. When completed we shall at once commence stoping east and winze. The lode in the above-mentioned stope 1s worth 2 tons of 0 sowts. of lead per fathom, or 12. per fathom. In all the other nout the mine there is no material change to notice since last re-turday next being our pay and setting day, a full report will be & The four parcels of ore sold on the 8th inst., alliweighed off light) made in money value 43ll. 15s. 3d. I am hoping to get about 1tl'NNEL.—H. Bennett, Nov. 15: The ground is still favourable at water is issuing freely from the end, but we have not yet cut vanch.

for next sampling. All the meaninery giving good satisfaction. NEL.—H. Bennett, Nov. 15: The ground is still favourable ater is issuing freely from the end, but we have not yet out.

A. Waters, Nov. 14: Setting Report: Brow Mine: The 72, to gonar shaft, by four men, at 120s. per fathom, and 5s. per ton; reter, but without ore to value. The 72 north, by four men, and 5s. per ton; lode composed of spar, with good stones of odrive south of shaft, by four men, at 130s. per fathom; lode but not to value at present. This end is getting near the ore upper levels. The stope in the 48, north of shaft, by four men, and 10s. per ton, worth 40 cwts. per fathom. The 80 to drive north of Wallace's cross-cut, north of shaft, is. per fathom, and 20s. per ton, worth of Wallace's cross-cut, north of shaft, is. per fathom, and 10s. per ton; lode worth ½ ton per fm.; the stope in the bottom of Gripp's adit, south of Menzie's (t. by four men, at 80s. per fathom, and 20s. per ton; the lode fathom. The 70st four men, at 160s. per fathom, and 5s. per ton; er fathom. Gripp's adit north, by four men, at 160s. per fathom. And 5s. per ton; er fathom. Gripp's adit north, by four men, at 160s. per fathom, and 10s. cer fathom. So at 10st of 10st of

y lode, but not sufficient ore to value. The stope in the four men, at 90s. per fathom, and 20s. per ton; the lode hom.

Cross Cut: Gripp's adit to drive south of the cross-cut, er fathom and 10s. per ton—a wide, promising lode. The dievel south, by four men, at 55s. per fathom and 10s. the 35 cwts. per fathom. A pitch in back of the level, north n, at 120s. per ton—Raik Vein—Reid's Shaft: Gripp's adit four men, at 135s. per fathom and 5s. per ton—a strong, of to value. This end is now beginning to drain the water proper. No. 1 stope, in back of Gripp's, south of shaft, ton and 10s. per fathom; the lode is worth 4 tons per fm. litto, by four men, at 20s. per fathom and 10s. per 10n—m. The stope in back of the 10, north of No. 2 winze, by fathom and 7s. per ton; the lode is worth 5 tons per fm. the 10, south of the above winze, by four men, at 10s. per the lode is worth 10 tons per fathom. The ground north ze is in places worth 10, 12, and even 15 tons per fathom; mentioned are set on the condition that a stope of a given he whole length of ore ground, taking the rich with the ope in back of the 10, south of No. 3 sump, by four men, is per ton, worth 20 cwts, per fathom. Watson's shaft to, by six men, at 16t. 10s. per fathom—present depth, Gripp's addit to drive west of Kaik vein, on same lode, by withom and 10s. per ton; the lode is yielding stones of ore, med is worth 15 cwts. per fathom. Watson's shaft to by the mand 10s. per ton; the lode is yielding stones of ore, med for the better. We are expecting an improvement we have the low we have sending for. I estimate ed last month at 230 tons, and estimate for this month ore undressed as the water shaft of the water the low was researching for. I estimate ed last month 4th the low of the low and searching for the loth interest and last month 4th the low of the low of

STONE CONSOLS .- Wm. Vivian, Oct. 29: This mine is situated in

worth 5 toms of ore per fathom. The stope in the bottom of this level, to four men, The 90 to drive west of skip shalt, by six men and some the per of the skip shalt to shin carried is 4 ft. wide, and worth 1 tons of ore per fathom. Generally shalt to shin the shall be sha

For are discovered to the order of the control of t

play a profitable tin mine, with a rising market for tin. I see the tin standing with a rising market for tin. I see the tin standing with a rising market. The mode of working that I recommend will make with a rising market. The mode of working that I recommend will make the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in the mode of the work of the stops in

of the 95 end, is going down by the side of the lode, which is worth 2 to 3 tons of lead ore per fathom. The 65, south of Stokes' winze, south of new engine-shaft, is worth 3 ½ tons of lead ore per fathom. The winze below the 50, south of Stokes' winze, is worth 3 tons of lead ore per fathom. The stopes throughout the mine are yielding ore as for some time past. We have to-day sent out samples of 150 tons of lead ore, the produce of October.

SAINT PATRICK.—Nov. 14: No change in the 120 yard cross cut since last report, being still in hard ground, but a congenial white limestone. The 60 yard cross-cut has got somewhat tighter, but the chert continues to be of a fine bearing character.

are yielding ore as for some time past. We have to-day sent out samples of 18 to tons of lead ore, the produce of October.

SAINT PATRICK.—Nov. 14: No change in the 120 yard cross cut since last report, being still in hard ground, but a congenial white limestone. The 60 yard cross-cut has got somewhat tighter, but the chert continues to be of a fine bearing cross-cut has got somewhat tighter, but the chert continues to be of a fine bearing of the product of the continues of the

My opinion is that as we sink the more orey parts of the lode will increase in size, and take the places of the other and "esp reductive parts. Should the whole of the width I have not of the width I have not other and "esp and the the places of the opinion" of the width I have not on the course of copper.

TRELEIGH WOOD,—W. Goldsworth, Nov. 15: The lode in the 34 west is worth 15', per fathom. The lode in the winze sinking below the 44 is worth 20', per fathom. All other places are just as last reported.

TYN. Y.FRON.—A. Francis, Nov. 14: In cutting through the lode, about 6 fms. behind the western end, the part we have stripped down is rich for blende ore. The lode in the western end, the part we have stripped down is rich for blende ore. I was a stripped of the strippe

were then, opening out good mineral ground. We set eight pitches on Saturday hast, to 17 men, at about the former tributes, except for blende, for which we have now set at 18s. per ton.

WEST TANKERVILLE.—A. Waters, Nov. 15: Setting Report: The 86 south of boundary shaft by six men, at 14. per fathom: lode 5 fs. wide, and worth 3/2 ton of lead ore and 3/2 ton of blende per fathom. The winze below the 75 by four men, at 12. per fathom; worth 1 ton of lead ore per fathom. The 75 south of shaft by four men, at 11. per fathom; worth 1 ton of lead ore per fathom. The 75 south of shaft by four men, at 11. per fathom; worth 1 ton of lead ore per fathom. The 75 south of shaft by four men, at 11. per fathom; No. 2 stope by four men, at 5. 15e, per fathom; worth 3/2 ton of lead ore per fathom. No. 3 stope by four men, at 5. 15e, per fathom; worth 3/2 ton of lead ore per fathom. No. 4 stope by four men, at 5/2, per fathom; worth 3/2 ton of lead ore per fathom. No. 4 stope by four men, at 6/2, per fathom; worth 1 ton of lead ore per fathom. No. 3 stope in back of the 63 by two men, at 3/2 los, per fathom; worth 1 ton of lead ore per fathom. No. 3 stope in back of the 63 by two men, at 3/2 los, per fathom; worth 1 ton of lead ore per fathom. No. 3 stope in back of the 63 by two men, at 3/2 los, per fathom; worth 1 ton of lead ore per fathom. We have to day sold 20 tons of blende for 71/2 los.

WEST WHEAL TOLGUS.—Nov. 15: Taylor's Shaft: The shaftmen are engaged to cut plat, &c., under the 145. In the 145 west the lode is 3½ ft. wide, yielding 2 tons of ore per fathom. In the 125 west the lode is 5½ ft. wide, yielding 3 tons of ore per fathom. In the 125 west the lode is broken up about the cross course, and disordered. In the 125 west the lode is broken up about the cross course, and disordered. In the 125 west the lode is broken up about 50 west, east of No. 3 winze, the lode yielding 5 tons of ore, worth 36/2, per fathom. In the 8 stope in back of the 185 east has been suspended.—Richards Shaft: Richards shaftmen are cutt

wide, and worth 15t. per fathom. The lode in the stope in the back of the 120 is worth 15t. per fathom. The 108 is poor. The two stopes in the back of the 108 are worth 8t. per fathom each. There is no change in the 72 east. In the 48 east we have cut through the lode, which is 6 ft. wide. At the point where cut through a sparry branch crossed the lode, and in the west side of the branch the lode will yield 3 tons of ore per fathom, but the east side is poor.

WHEAL NEWTON.—H Bennett, Nov. 15: No. 3 stope, in the back of the 40, east of Cook's shaft, is looking well, yielding very rich silver ore. All other points of operation continue much of the same appearance as when last reported on. We have commenced to haul the water from Hampton's shaft, having completed the horse whim, and shall soon be enabled to resume sinking. Next Saturday being our setting day a full report shall follow.

WHEAL UNY.—Wm. Rich, M. Rogers, J. Rich, Nov. 12: We are sinking by the side of the lode in Hind's engine-shaft, and shall take it down in the course of a week or two. The rise in the 160 east carries stones of tin. The 160 end west is worth 12t, per fathom. The 150 west is worth 9t, per fathom. The 150 east yields a little tin. The 140 east Is worth 10t, per fathom. The lode in the bottom of the 130 west is worth 10t, per fathom. The 150 end set is worth 8t, per fathom. The lode in the bottom of the

TO THE METAL TRADE.

FOR COPPER, TIN, LEAD, &c., apply to-MESSRS, PELLY, BOYLE, AND CO., SWORN METAL BROKERS, ALLHALLOWS CHAMBERS, LOMBARD STREET, LONDON. (ESTABLISHED 1849.)

The Mining Market: Prices of Metals, Ores, &c.

| META | L MARKET-LONDON, Nov. 16, 1877. |
|---|--|
| IBON. & s. d. & s. d | TIN. 2 . a. 2 . d |
| Pig, GMB, f.o.b., Clyde 2 12 0 | English, ingot, f.o.b 75 0 0 |
| . Scotch, all No. 1 2 14 0- 3 10 0 | , bars ,, 76 0 0 |
| Bars, Welsh, f.o.b. Wales 5 5 0- 5 10 0 | refined 77 0 0 |
| in London, 5 17 8-6 0 0 | Australian 6/ 10 0 |
| Stafford., 7 0 0- 8 0 0 | Banca 71 0 0 |
| in Type or Tees 5 10 0- 5 15 0 | Straits 68 0 0 |
| Swedish, London 9 2 6- 9 12 6 | COPPER. |
| Rails, Welsh, at works. 5 0 0-5 2 6 | Tough cake and ingot. 69 10 0- 70 0 0 |
| Railway chairs | Best selected 71 0 0 |
| " spikes | Sheets and sheathing. 74 0 0- 74 10 0 |
| Sheets, Staff., in London 8 15 0-9 0 0 | Fiat Bottoms 77 10 0 |
| Plates, ship., in London 7 0 0-7 5 0 | Wallaroo 74 10 0- 75 0 0 |
| Hoops, Staff 7 10 0- 8 0 0 | Burra, or P.C.C 73 0 0- 73 10 0 |
| Nail rods, Staff. in Lon. 7 0 0 | Other brands 72 0 0 |
| STEEL. | Chili bars, g.o.bnom. 64 10 0 |
| English, spring 16 0 0-20 0 0 | PHOSPHOR BRONZE. |
| cast | Bearing metal |
| Swedish, keg16 0 0 | Other alloys £120 0 0- 140 0 0 |
| , fag. ham17 0 0 | |
| LEAD. | BRASS, |
| English, pig, common . 19 15 0- | Wire 8d |
| ,, L.B. nom.20 0 0 | Tubes10 |
| . W.B20 10 0 | Sheets 9 |
| sheet and bar21 0 0 | Yel. met. sheath. & sheets. 6% - 7% |
| pipe21 10 0 | Nails composition 814 - 914 |
| " red22 5 0 22 10 0 | TIN-PLATES.* per box. |
| ,, white27 5 0-28 0 0 | |
| patent shot24 10 0 | Charcoal, 1st quality 1 0 0 - 1 1 0 |
| Spanish19 10 0 | oke, 1st quality 0 19 6- 1 0 0 |
| QUICKSILVER. | ,, 2nd quality 0 17 6- |
| Flasks of 75 lbs., ware. 7 7 5 | Blackper ton 16 0 0- 16 10 0 |
| SPELTER. | Canada Staff or Gla |
| Silesian or Rhenish 19 5 0- 19 7 6 | Canada, Staff. or Gla., 11 10 0 - 12 0 0 |
| English, Swansea 21 0 0 | |
| Sheet zinc 22 10 0- 24 0 0 | Black Taggers, 450 of 30 0 0- |
| | less for ordinary; 10s. per ton less for |
| At the works, is. to is. od. per our | less for ordinary; 10s. per ton less for |

Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below the plates of similar brands.

REMARKS.—We have lately heard from the highest authority in the land that our Government has "both hope and patience" in the blessings of peace, and that "the time may not be distant which will bring an issue" to the war now raging in the eastern part of Europe, and not only "restoring peace to Turkey but establishing her independence." These happy expressions will not only convey the greatest amount of loy and satisfaction to all classes of Englishmen, but will we are sure be heartly joined in by our fellow Indian subjects, our Australian brethren, our American cousins, our continental neighbours, and every inhabitant of the civilised world, but more particularly that section whose interests and welfare are so materially affected by the universal maintenance of peace and good order. What a happy Christmas indeed would it be to us all if we should be blessed with the blessings of peace. When such a declaration as we have quoted above emanates from one whose high position necessarily enables him to form an undoubted opinion of the probable course of foreign affairs we ought to accept it and act upon it, for although some among us may have thought differently, yet we must credit Lord Beaconsfield with being better informed upon the subject than it is possible for anyone else to be, as he, doubtless, possesses the fullest and best information of the disposition and power of both beligrents, and if our rulers have hope, and publicly state so, it is a confirmation that there are good grounds for its existence and adoption, otherwise it certainly would not have been mentioned at Guildhall, for no object could be gained in misleading the nation by a willful misrepresentation; therefore, if hope is 'entertained by Her Majesty's Ministers, surely a hopeful feeling should begin to spread amongst the people, and since the Prime Minister of England has been graciously pleased to enlighten REMARKS.-We have lately heard from the highest authority in

site view, and everyone must lungs or miniscit as to the varia and correctness of Lord Bacconsfield's views, and as to the probability of a prolonged war or a speedy peace.

The conclusion of the war cannot be expected to remove every obstacle in the way of business, but it would be the greatest evil overcome, and as soon as ever it is stopped the course of our markets would be reversed, and, instead of going backwards, as they have been for the last year or two, they would turn round and go forward. Our markets would soon throw off their depression, gain buoyancy, and prices would no longer assume a declining tendency, but an upward tendency. But we have not yet arrived at that happy period; nevertheless, we are encouraged to have hope and patience, and those who follow this good advice will, doubtless, meet with their due reward. The unsettled state of political affairs in France may give cause for apprehension, and retard any general improvement, but, as matters stand at present, that is only of secondary importance, and we must not overlook the fact that no general improvement as yet has been made in anticipation of peace, and as the prices of metals for the most part are comparatively low, and do not form any hindrance to ordinary consumption, there is every incentive and prospect of an enormous expansion of trade; and, independent of our regular markets, there would seem to be, according to Mr. Stanley's report, an ample field for the enterprising merchant in the wast regions of Central Africa; in fact, another new world of commerce awaits us, and those merchants who find the competition and difficulties of the old markets more than they can encounter had better proceed forthwith and establish themselves in this newly-discovered quarter of the globe. Gold and copper are irresistible temptations—they have been the making of Australia and many other countries, and their magnetic influence will, doubtless, attract many an adventure in a short time to Katanga. Ploneering, however, is a laborious task to perfo

copper, tin, and lead being all slightly lower. The reduced prices in a little time cannot fail to stimulate consumption, and buyers must be on the alert in not missing a good chance when it presents itself. As there is a good deal of back work to make up, and times are sufficiently propitious to make a forward movement, the present quotations are tolerably safe, and although the markets may not be ripe for a grand speculation, yet we are of opinion that whatever may be sold now should be quickly replaced, and consumers should on no account be dilatory in securing present requirements and booking a little forward.

COPPER.—Last week we proclaimed the triumph of Burra in the recent sales of Australian course.

the present requirements and consumers should on no account be dilatory in securing present requirements and booking a little forward.

COPPER.—Last week we proclaimed the triumph of Burra in the recent sales of Australian copper, but in doing so we did not accord a full measure of praise to it, and even now our space will not admit of our expatiating upon it in adequate terms or nearly so fully as it deserves to be recorded. In our last review we pointed out that between the highest and the lowest prices at the sale of Burra and Wallareo cake the difference did exceed \$\frac{6}{8}\$. per ton, and it remains for us to state the sale in July last was as much as \$2\frac{7}{2}\$. Sed., and between the highest price of Wallareo ingots and the lowest price of Burra ingots there was \$\frac{4}{4}\$. Per ton; there are the sale in July last was as much as \$\frac{7}{2}\$. Sed., and between the highest price of Wallareo ingots and the lowest price of Burra ingots there was \$\frac{4}{4}\$. Per ton; therefore, the conclusion that will naturally be drawn is one of two things, either Wallareo ingots have deprecised in the estimation of buyers to the extent of about \$2\cdot to \$4\cdot, or that Burra has improved to that same extent; but whichever way it is looked at the result is particularly favourable to Burra, and a complete triumph for this celebrated brand. Burra may now be considered quite on a par with Wallaroo, and we should not be surprised at some future time to find it once again preferred and esteemed above the value of Wallaroo. The price realised at the sale for Burra was undoubtedly satisfactory to the Australian Company, but the sale in other respect must have far exceeded their most sanguine expectations, for while Burra was confined by the crowning success of all for Burra did manner, Wallaroo, and buyers, for there was so much more copper bought in upon the of consumers this time than in July last, which goes to show how highly the best judges of quality appreciate the Burra brand.

It is, perhaps, unnecessary t

work this week, but the demand is not so active as to enable makers to obtain better prices. Merchant orders for bars have not been quite so numerous, nevertheless quotations remain unaltered. There is no doubt, however, that in most branches of the iron trade a slight improvement in the demand is observable, but higher prices cannot be obtained; at present the markets are not sufficiently animated to warrant more than trifling finctuations. Sellers must be content for a time to execute orders for small profits, or, if needs be, to so without profit; and if may be advisable in some instances even to carry on at a positive loss, although in this last case there ought to be the greatest amount of assurance that it can be recovered hereafter; but we are in a prostrate condition at present, and it is letter to admit it and face it than to try and cover it under false colours. Many of our works are completely on their beam ends, but it only shows more than ever the necessity for practicing economy and retrenchment in every pos-bile way. Our rapid elevation a few years since did all the mischief, and now we have to smart and to pay dearly for our former excesses. We must repair the damage as well as we can, and reconstruct with renewed energy and perseverance to recover the lost trade. The old system of extravagance and prodigality requires to be swept right away, and everyone must be made to forget the ease and affluence which an inflated period led us into, and utterly corrupted our good morals. Masters must no longer think of making handsome profits, and men must be content to work for considerable less wages; it is very hard to break up establishments and homes, and have to begin the world afresh—nevertheless, necessity compels, and what cannot be cured must be endured. Man will soon accommodate himself to circumstances if he has the will and disposition. The greatest difficulty is always in the beginning, but when once the firskep is taken, and as strenuous effort put forth, the trouble and inconvenience soon va

Decrease
Total decrease for 1877
Imports of Middiesborough pig-iron into Grangemouth:—
Week ending Nov. 10, 1877
Week ending Nov. 11, 1876

fact, another new world of commerce awaits us, and those merchants who find the competition and difficulties of the old markets more than they can encounter had better proceed forthwith and establish themselves in this newly-discovered quarter of the globe. Gold and copper are irresistible temptations—they have been the making of Australia and many other countries, and their magnetic influence will, doubtless, attract many an adventurer in a short time to Katanga. Pioneering, however, is a laborious task to perform, but by energy and perevaries, industry and honesty, all obstacles may be surmounted in an incredible short space of time, and those who get out first stand the best chance of amasing a colose al fortune.

We hope no vexatious opposition will be offered by any Government to the formation of esttlements, and to the immediate opening up of trade with Central Africa, but that ail claims and disputes will be amicably arranged by arbitration to the satisfaction of all parties. The complaints so often heard that the market are overdone cannot apply to this recently explored district, for there everything in a primitive state, and waiting to be turned to good account; it is not likely above its value that sooner than part with it they prefer to let it rest and fifteening with human beings, occupying towns and willages, and who only want to be instructed and brought to understand the advantages of commerce; and if the natives are kindly adh honourably treated and dealt with there is no modern than part with human beings, occupying towns and willages, and dealt with there is and if the natives are kindly alth honourably treated and dealt with there is and if the natives are kindly alth honourably treated and dealt with there is and will probable to understand the advantages of commerce; and if the natives are kindly alth honourably treated and developed. Why, then, should there be any delay in organising trading companies for mer proportions while these fresh and who would be only too glad of the opportunity.

must be always ready to take a profit or submit to a loss as the case may be seen should like to see this class of dealers on the increase, for they are a useful by of men, and help to make a market. Another Banca sale is announced for the end of this month. Whatever the function of our market may be, it is not expected to improve until after that is over the same and the profit of our market may be, it is not expected to improve until after that is over the same and t

The settlement of the fortnightly account has occupied the chief attention of the dealers in the MINING SHARE MARKET this week and the fresh business transacted has been of moderate amount. The mines chiefly dealt in have been South Condurow, Pately Bridge, West Pateley, D'Eresby Mountain, Rookhope, Glenry South Frances, East Van, Leadhills, Parys Mountain, West Welley, Prince of Wales, and a few others.

TIN MINES have been weaker since our last, and prices generally are not so good or so firm as they left off last week. No feet

Valley, Prince of Wales, and a few others.

Tin Mines have been weaker since our last, and prices generally are not so good or so firm as they left off last week. No further official change has taken place in the standard that we have lead of since the 5th, but the tin trade is reported as a little flatter, and the smelters are buying at a reduction. Carn Brea has declined by 47 to 49; Dolcoath, 35 to 37½; Tincroft, 16 to 17; South Condur we 3½ to 9½; South Frances, 3½ to 4; Cook's Kitchen, 2½ to 3; Ent Lovell, 20s. to 30s.; Penstruthal, 5s. to 7s.

South Crofty, 10 to 12, call paid; at the meeting the account showed a loss on the quarter of 9554, and a balance against the moof 19174. The copper ore realised 9374; tin ore, 13984. A call 14, per share was made. The costs for the next quarter will beleat and as tin is improving it is hoped the position of the mine will better at the next meeting. The Lovell, 2½ to 3½; the lode in Haman shaft sinking below the 36 is still 12 ft. wide, and worth 200 per fathom for the length of shaft. Lode in stope in back of the 31 to 16 to 17½; Wheal Grenville, 3 to 3½; Wheal Agar, 3½ to 4½; Wheal Basset, 15 to 17½; Wheal Grenville, 3 to 3½; Wheal Jane, 2 to 4½; Wheal Kitty, 2½ to 2½; Wheal Peevor, 5½ to 5½; Wheal Jane, 2 to 4½; West Basset, 2 to 2½; West Frances, 5 to 5½.

COPPER MINES continue low and depressed, but it is just possible copper may have an advance ere long, and low priced shares become in demand. Devon Great Consols, 2½ to 3. West Tolgu, 6 to 70. Parys Mountain in request at 11s. to 13s; the prospect at 15 to 17 to 17 to 17 to 18 to 19 to

Copper Minnes continue low and depressed, but it is just possible copper may have an advance ere long, and low priced shares acome in demand. Devon Great Consols, 2½ to 3. West Tolgu, 63 to 70. Parys Mountain in request at 11s, to 13s, the prospect at the 90 south are still described as very encouraging, Morfa-In, 7s, 6d, to 10s. Marke Valley, 15s, to 20s. Prince of Wales, 5s, to 6; a discovery of copper has been made in the winze sinking below the 25. Lead Mines have been moderately active and in some mines at an advance. Van are 31 to 33; the sale of lead at this month (550 tons) realise 1 6932/. 10s.; 350 tons of blends, 946/. 17s, 64.—total, 7920/. 7s. 6d., or 1051/. 5s. more than the lattenance of assets over liabilities of 1353/.—the leaf ore sold realise 1993/. Roman Gravels, 7½ to 8; the sampling is 180 tons of lead. Be 106, north of winze, north of flat-rod shaft, is in a lode worth 1½ to 4; the Rake vein, in the 39 east, has improved to 7 tons of lat over 500 tons, and trusts that his expectations of speedily making test the flat worth and trusts that his expectations of speedily making test the flat worth a tons. Pat the meeting in core per fathom. The agent estimates his reserves in the min at over 500 tons, and trusts that his expectations of speedily making test and the search as wellinged. South Earney Gravel 2 to 15 to

to 4; the Rake vein, in the 39 east, has improved to 7 tons of sail ore per fathom. The agent estimates his reserves in the minatover 500 tons, and trusts that his expectations of speedily making good profits may soon be realised. South Roman Gravels \$\frac{1}{2}\$ to \$1\$ the lode in the 45 east has yielded some fine stones of lead and blende. West Pateley, \$\frac{1}{3}\$ to \$2\frac{1}{4}\$; the agent writes that the 20, ast and west, on Golden Fleece vein, has much improved during be week. West Tankerville, \$15\$, to \$17\$, \$6.1\$; the 20 tons of blade realised \$71L\$. 10s. Aberdaumant, \$6\$, to 8s.; Court Grange, \$15\$ light East Van, \$3\$ to \$\frac{3}{2}\$; Glenroy, \$15\$, to 20s.; Great Laxey, \$2\frac{1}{4}\$; Llanrwst, \$2\$ ladywell, \$17\$, \$61\$, to \$22\$, \$61\$; Leadhills, \$\frac{3}{4}\$ to \$5\frac{1}{4}\$; Llanrwst, \$2\$ ladywell, \$17\$, \$61\$, to \$23\$, \$61\$, to 20s.; Boildris, \$1\$ lady \$1\$; Rookhope, \$21\$, to \$23\$, \$11\$, \$2\$, Pandora, \$15\$, to \$20\$, \$3\$; Boildris, \$1\$ lady; Rookhope, \$21\$, to \$23\$, \$2\$, van Consols, \$7\$, \$64\$, to \$12\$, \$64\$; Wast Chiverton, \$13\frac{1}{2}\$ to \$14\frac{1}{4}\$; Gorsedd and Merllyn, \$5\$ to \$6\$; Great Holour, \$5\$ to \$5\frac{1}{2}\$; Pennant, \$4\frac{1}{2}\$ to \$5\$; Caron, \$2\$ to \$2\frac{1}{4}\$; Grogwinion, \$3\$ to \$4\frac{1}{4}\$. To \$1\$; Wast Combes, \$2\frac{1}{2}\$ to \$3\$; Wye Valley, \$2\frac{1}{2}\$ to \$3\frac{1}{4}\$; Wye Valley, \$2\frac{1}{2}\$ to \$3\frac{1}{4}\$; Wye Valley, \$2\frac{1}{4}\$ to \$3\frac{1}{4}\$; to \$7\$; Flagstaff, \$2\frac{1}{4}\$ to \$2\frac{2}{4}\$; Frontino and Boliva, \$1\$ to \$1\frac{1}{2}\$; Malpaso, \$\frac{1}{2}\$ to \$3\frac{1}{4}\$. New Quebrada, \$2\$ to \$2\frac{1}{4}\$; Port Phillip, \$10\$, to \$12\$s.; Richmond, \$\frac{1}{2}\$ to \$\frac{3}{4}\$. Racked for Mine Shares on the Stock Exchange has shown.

The Market for Mine Shares on the Stock Exchange has abore considerably less animation than last week, the general settlement having shown stock to have been more abundant than was antipated, and a depressing effect with regard to every class of security being the resuit. In the shares of home mines there has been also ided decline, the difference in quotations showing in almost every case where any bona fide transactions have taken place a decline about 10 per cent.; thus, Carn Brea have receded 44. Tincroft at West Tolgus each 14, and most others are also quoted less than law week. In connection with foreign shares the decline has been ageneral, although the assertions as to improvements in some of an mines have not been substantiated. Flagstaff shares have somewhat higher, but there is said to have been considerable ternal dissension at the board, one director getting private siviles by one means, and another by other means, as to the indications at the mines, and there can be no doubt that although the sprobably used his information in such a way as in his own opine was most conducive to the interest of the general body of shareholders, the creation of the opinion among the outside polic that all is not "fair and above board" cannot tend to the parament a dvantage of a company, although it may enable a first the foreign of the lower of the properties of the lateration of the private and have the first and all the policy of the properties of the properties of the private and all the p The Market for Mine Shares on the Stock Exchange has show

to let their shares slide at an advance.

The reported great improvement at Eberhardt and Aurors, including the Journal a fortnight since, had to be contradicted week, and the reality of the reported improvement at Flague now appears to be equally open to question. Rumours as to be week, and the reality of the reported improvement as now appears to be equally open to question. Rumours as to formation having reached the board instead of an individual compondent, owing to the company's cypher having been accidently used, may well be accepted for what they are worth, as it was be unjust, except upon very conclusive evidence, to charge appear the mines sufficiently high in office to be entrusted with the company's cypher, either with communicating with individual of the man of another cypher, or with using the company's cypto send over false information. Any director who can be an extent as to receive private information are reming any mine with which he is connected should be at cerning any mine with which he is connected should be at unseated. In accepting the position of director a man become much the servant of the company as the secretary or office and if he had any self-respect he would at once request even from the company as the content of the company as the secretary or office and relations near the content of the c and relations near the company's property to forward all sments concerning such property to the company's office honesty of a director habitually in receipt of private informativery properly doubted, however little ground of doubt may

With the ne pleasant ru Cape Cop ard to Ool and the wor of Ookiep, very good lower part the shaft. the shaft.

Ind from S
St. John C
states that t
the value o
per ton. TI
necived on
Oct 18. A
month. Th
repaired; 1c
and other t
the produc ate produc

Nov. 1

ads had b ements. the process the pr the gold to the cost in encouraging the cost in the co quartz, w count. Richmond with the

John Gar e concern a ment are The Minera he direction and that he h Queen's T ammer is of a large bod at time. ns "leased or niners who a limen are bu

the engine-sh heavy. The s make of qua nd working Hultafall, 5 te buildings the recept of the m old be mad sible. La meat the

ead Mines

ity in

ual month! le four weel -realis

ly aspect. pments

ns of le ing for th 41, cum **submitt** made du mences

satisfacto ill be he and ore 13 to 21 1088-cut ard. ley Brid gnificent s of lead has also parts of Friday) (om. mines a monthly.

ng on v

187

ined about ork on the ces remain es at 75 to The total

On both tities, but, set, second-

d the chist this week,

S generally
No further
have he ad
flatter, and
leclined to
condurr
to 3; E1st

de in H

Tolgue, 63

Aurora, cradicted at Flag at rs as to invidual com-

ns it we

harge and ted with individual pany's cyleration do be at a second

office

bt may

format

moun

Tigh the new accession to the board it may be hoped that the unplasm rumours which have been current will altogether cease. Physical Copper, 33 to 35; the last advices are favourable with replied to Ookiep. The stopes have yielded well during the month, and to works, both underground and at surface, have been carried

is more monacted oblive, the level from the bottom of the shaft produced some doblive, the level from the bottom of the shaft produced some argod copper ore, but the most productive ground is in the set good copper ore, but the most productive ground is in the set good copper ore, but the most productive ground is in the set good copper ore, but the produce of the most of Okiep 950 tons of 33 per cent, as from Spektakel 8 tons of 40 per cent.

It has been set good from the month of October was 35,000 oits, of set shat the produce for the month of October was 35,000 oits, of set shat the produce for the month of October was 7.9 oits per ton. The September produce was 81 oits per ton. The advices set good from the set good own the news from Morro Velho to set 18. A large amount of work had been done during the set. The foundation of pumping-wheel had been permanently good of the miscellaneous though pressing work done. The aggresse produce for September was 40,255 oits, of gold, from 4541 tons amont at reated, being 4641 ozs. troy of gold, or a fraction over 16. per ton. The value of the gold was 15,4824, and the cost pie produce for spielmost was 19,200 rits. of gold, from 4941 tons amneral treated, being 4641 ozs. troy of gold, or a fraction over 1 at per ton. The value of the gold was 15,4824, and the cost 124, leaving a profit of 80604. The exchange was the same as in sepreious month, and the cost was less by 2364. Delays were still sag experienced in the reduction department, the pinion of the obsworth stamps having given way. At the Praia 12 additional balls had been put to work, and owing to the large reserve of general mineral, with killas, they will be kept apart for the treat-satof the same. Heavy rains had set in, and the supply of water assing over the establishment was more than sufficient for all requencents. Don Pedro, \(\frac{1}{3}\) to \(\frac{1}{2}\); the telegram from Rio, on Monday, free the produce for October at 4200 oits.

The producing 339 ozs. gold, or an average of 6 dwts. per ton; the value (the gold 3324, and total cost 4664, leaving a profit of 4664. The stree cst includes 724, for machinery and tram-roads. The report serious gold. The value of 16904. were obtained from 2100 tons (4partz, whilst the expenditure was 9064, including 704 on capital goods.

signification of the expenditure was soon, including 70% on capital goods. Redmond, 8 to 8½ ex div.; the usual weekly telegram from the give at Eureka gives the week's run at \$75,000, from 1000 tons of 60%, with three furnaces. The week's produce of the refinery was \$1000. Everything is running well. The manager reports that \$1000. Everything is running well. The manager reports that \$1000. Everything is running well. The manager reports that \$1000. Everything is running well. The manager reports that \$1000. Everything is producing a large amount of builton. The third stone bases is now working on Jackson ore and drosses from calcining pans. The stilled states that "The ore body in the 5th level, westerly from the shaft, is stilled partially of very rich ore, and as it is broken out expands to large proportion, issuing supplies for the furnaces now in operation for an indefinite length one. We are informed that the drift run on the 6th level, to tap the same ore byth as further depth of 100 ft. is in ore, and the average assays from that point one of the following of the state of the ore body, and is evidence of its proportions. The company gedeed a contract calling for 200,000 bushels of coal to be delivered after least; I, and from all their movements we deduce the fact that they anticipate; lawe providing for an uninterrupted run of many months. The members of \$1000 ft. in ore, and the promonism of the average assays from that point every law of the proportions and branches in the proportions and branches is given many their enquiries extending to all the ramifications and branches is given by the from the operations of so vast a concern. Their conclusions will be laid wet the shareholders on their return to London, and they promise to furnish a satisfaceting document."

Flastaff, 24 to 23; further discoveries of rich ore are announced.

Flagstaff, 2\frac{1}{2} to 2\frac{3}{4}; further discoveries of rich ore are announced Flastaff, 22 to 23; further discoveries of rich ore are announced git the company's status and affairs in London are considered to be highly ning. Two new directors have taken seats at the board—Light Garne, who, it is said, has promised financial assistance to be company, and Mr. John Wild, whose name is well known in congition with the Cape Copper Mining Company. The prospects of becomes are considered to be so good that energy and good massement are alone necessary to make it a success.

genomer are considered to be so good that energy and good magement are alone necessary to make it a success.

The Mineral Hill advices state that work has been resumed under the direction of Capt. Plummer on the English company's mines, at that he has a force of men at work in that portion known as bequen's Tunnel—an adit driven some 300 ft. formerly. Capt. Anner is of the opinion that the work will result in the opening falarge body of ore, the indications being favourable at the prestitime. He has also renewed the policy formerly adopted, and is leased on shares a portion of the company's ground to the hardy sizes who are active in the pursuit of hidden bonanzas." About Been are busy at work, and the Hill has assumed a cheerful and fixely appet. If Capt. Plummer be successful in his efforts, and stelpments justify the step, it is probable that the mill will soon same operations. Exchequer, 4s. to 6s.; no official communication lays these issued as to the company's affairs. I.X.L., 3s. to 5s.; it engine-shaft is down 32 ft. below the 300, and water is still laty. The shaft is looking favourable in the bottom, full of small mysting well.

Easy. In smart is forking rayourable in the bottom, full of small makes of quartz. Everything in and about the mine is running to writing well.

Elitafall, 5½ to 6; the latest advices from the mines state that buildings and foundations for the dressing-floors are all ready to the reception and erection of the machinery, that a large portion that the state of the reception and executions. of the machinery had already arrived, and that every effort blue made to get the same into working order as quickly as able. Large quantities of ore have already been raised ready the completion of the machinery, and every part of the explo-ment the mines continued equal in value to when last reported

ad Mines have been in good demand, especially low priced manger amounces and in good demand, especially low priced with the said that in some cases buyers have found that in obtaining shares at quotations. Van. 31 to 33; the almost hyperbolic states that the mine is looking well, as usual. Four weeks' sale on Thursday—550 tons of lead and 350 tons of the realised 79294. 7s. 6d. This sale was augmented by the troduce of the new halvans dressing floors, which produced that of lead and 200 tons of blende. Grogwinion, 3\frac{3}{2} to 4\frac{1}{2}; manager announces an important improvement this week, the flode having been cut rich in the 68 cross-cut, which had been may for this point for some months past; the lode shows a satismy quantity of ore, fully equal to what was expected from it. manager further states that there is also a good lode in the deep and (the deepest point in the mine) much better than they have the defere. This news is considered the more satisfactory as affirms the oninion expressed by the executive that when the that before. This news is considered the more satisfactory as simfirms the opinion expressed by the executive, that when the arrives for sinking the shaft below the deep adit the lodes likely to be found equally as productive as they have already neither than the upper levels, all of which are high and dry above level of the River Ystwith. Wye Valley, 2\frac{3}{2} to 3\frac{1}{2}; a parcel 3\frac{1}{2} to 300 new shares, to provide funds to sink the new shaft drive levels, has been well applied for by the shareholders. of dive levels, has been well applied for by the shareholders, halest news from the mine is satisfactory. West Wye Valley, halest news from the mine is satisfactory. West Wye Valley, half, cum div.; the meeting is to be held on Dec. 3. The report is submitted is satisfactory, and shows that great progress has an assed during the past year, and that regular sales of ore will seemmenced at once. Caron, 2 to 2½; everything is reported to ham well at the mine, and the appearance of the lode is waisfactory. South Cwmystwith, 3½ to 4½; the annual meetwill be held early next month. The mine is still opening out half, 1¾ to 2½; good progress is making in dressing ore for market. Scross-cut towards the lode in the 72 is being speedily pushed had.

ey Bridge. 3½ to 4½; the 30 east on Rake vein is opening out billient course of l-ad ore. The vein is 8ft. wide, and worth of lead ore per fathom. Fielding's vein, in the 20 end north has also improved, now worth 1½ ton lead ore per fathom. Parts of the mine unchanged. A telegram received yester-ridgy afternoon announces a further improvement in the rein east; now contains 2ft. solid lead, and worth 6 to 7 tons sthom. Leadhills, 5 to 54; the monthly report states that mines are looking well, and raising large quantities of lead month monthly. The various ends are, it is said, nearly all approaching of ore ground, so that some important discoveries are

likely soon to take place, which will, it is thought, tend to enhance

likely soon to take place, which will, it is thought, tend to enhance the value of the property.

Subjoined are the closing quotations:—

Assheton, ¾ to 1¼; Carn Brea, 45 to 50; Devon Great Consola, 2¼ to 2½; Dolcoath, 35 to 37; East Carndon, 1½ to 13½; East Van, 3¼ to 3¼; Gleuroy, ¾ to 1; Glyn, ½ to ¾; Great Laxey, 21 to 23; Hingston Down, 3½ to ½; Leadhills, 4½ to 5; Marke Valley, ½ to 3½; Parys Mountain, ½ to 5½; Eastley Bridge, 3½ to 4½; Penstruthal, ¾ to 3½; Roman Gravela, 7½ to 8; Romope, 22s 6d. to 25s; Tankerville, 4½ to 5½; Marke Valley, ½ to 3½; Parys Mountain, ½ to 8; Romope, 22s 6d. to 25s; Tankerville, 4½ to 5½; Tieroft, 15 to 17; Yan, 31 to 3½; West Assheton, ½ to 1; Wheal Crebor, ½ to 5½; Tieroft, 15 to 17; Yan, 31 to 3½; Almada and Hindorphoto, ½ to 1; Wheal Grewille, 3 to 3½; Almada and Hindorphoto, 31 to 1; Wheal Crebor, ½ to 1; Wheal Grewille, 3 to 3½; Calorado Ferribie, 1½ to 2; Condes of Chill, 2½ to 3; Bon Pedro, ¾ to 5½; Eberbardt and Autrona, to 7½; Exchequer, ¾ to 3; Emma, ¼ to 5½; Eberbardt and Autrona, to 7½; Exchequer, ½ to 3; Emma, ¼ to 5½; Eberbardt and Autrona, to 7½; Exchequer, ½ to 13¢; Emma, ½ to 5; Condes, 25¢; Pestarena, ¾ to 3½; Plumas Eureka, 25¢ to 27; Port Phillip, 7-16ths to 9-16ths; Richmond Consolidated, 8½ to 8½; St. John ed Rey, 325 to 385; Sierra Buttes, 1½ to 1½; South Aurona, ½ to 3½; Peecama, ½ to 1½; South Aurona, ½ to 3½; Tecoma, ½ to 3½; United Mexican, 1½ to 2; Oregon pref., 4 to 4½.

COLLIERIES.—During the week now closing a slight amount of activity has been noticeable in the market for this class of shares, activity has been noticeable in the market for this class of shares, and this is to a large extent supported by the generally received fact that now, while trade is bad and prices at their lowest, is the best time to venture into colliery and iron companies of a bona fule class. The various coal markets, while not showing any great increase in price clearly indicates great firmness, which must result in higher rates before very long; and that this is generally appreciated by the "knowled ones is evidenced by the fact that the greater number of enquiries after coal and iron shares emanates from persons either interested in or connected with the trade. Chapel House, Alltami, Newport Abercam, and Thorp's Gawber all exhibit greater firmness. Chapel House new pit is down 330 yards, and will be completed to the Park Mine by January; everything else going well. The shares close at 3 to 34; Alltami shares close at 4 to 5; the tunnel to the main coal at section D is within 8 yards of the seam, and good progress is being made. Llay Halis have been dealt in at 8 to 9; considerable improvement is noticeable in the output of this colliery, the amount of coal raised daily being rapidly increased. Behar shares close at 8½ to 9; Cakemore, 2 to 2½; Carliff and 8wansea shares have been done at slightly higher prices, the closing quotation being 1 to 1½. Consett fron shares (ose at 17½ to 17½; Andrew Knowles and Son, 18½ to 19; New Sharlstone (pref.), 3½ to 8½; Pelsall Coal, 3 to 4; Thorp's Gawber Hall at 2½ to 2½.

The report of the New Oriental Hotal Company for the year and

The report of the New Oriental Hotel Company for the year ending June 39 last shows a net profit of 11894, which with 6514 brought forward, it 18404, available for distribution. The interim distribution in August absorbed 6904, and a further dividend of 4 per cent, which is recommended (making 8 per cent, for the year) leaves 4694, to be carried forward.

At the general meeting of the Hifracombe Hotel Company, held to-day, a dividend of 5 per cent, was declared, and 3094 carried forward.

Mr. W. C. Cooper, of King's Arms-yard, has been appointed liquidator of the Government Security Fire Insurance Company.

THE IRON TRADE.—(Griffiths's Weekly Report).—Friday Evening. Business was done this morning on the Glasgow Exchange in G.M.B. plg fron at 52s. 1d. The price of warr. nts this afternoon at the close was 52s, a tall in price since last Friday of 84. per ton. We quote makers No. 1 fron; Gartsherrie, 60s. 64.; Cotiness, 69s. 6d.: Colder, 61s.; Lungloan, 6 s.51.; Summerlee, 50s. 6d.; Monkland, 54s., fo.b. Glasgow; Glengarnock, 59s. 6d.; Edington, 54s. 6d., fo.b. Ardrossan; Shotts, 61s. 6d., f.o.b. Leith; Kenniel, 55s. 6d., f.o.b. Bo'ness. There is very little change to report in the fron trade this week. The Glasgow market has given way a little for Scotch pigs. At Middlesborough, on Tuesday, the market was weak and uncertain. Forge iron is perhaps a little weaker. On the West Coast hematites are firm. The produce of Frollingham, Derbyshire, Stuffordshire, and S. ropshire remains unchanged in price. The market price for all these brands row. Insunchanged, but we cannot report much business in either. Our market for all kinds of manufactured iron is very quiet, and only a very moderate business can be reported. Sheet fron for galvanising purposes is more in demand than any other kind.

Messrs. Pixiex and Abelli.—Gold: With the exception of 40,000%, sent into the Bank, and which remained over from lask week's acrivals, the demand has been sufficiently active to absorb all the amounts that have come to hand this week's acrivals, the demand has been sufficiently active to absorb all the Brazils. The Lombardy has brought 108,000% from the West Indies, and the Tagus 32,400. From the West Indies, and the Tagus 32,400. From the Brazils. The P. and O. steamer takes to Egypt 183,000%, and the Elbe 50,100% to the Brazils.—Silver.—In consequence of the German Government coming into the market as sellers of bar silver, the price has seriously declined; in our last circular we quoted 545%. To 554 per oz., and from that time a gradual reduction has taken place: until to day business have been 58,000. from the West Indies; total, 1 THE IRON TRADE .- (Griffiths's Weekly Report) .- Friday Evening.

* * With this week's Journal a SUPPLEMENTAL SHEET is given, With this week's Journal a SUPPLEMENTAL SHERT is given, which contains: Original Correspondence—Manufacture of Iron and Steel; Instability of Nitroglycerine Compounds; Electric Lighting '(A. Vassur4); Colliery Accident Funds (A. Macdonald); Meteorology, and Colliery Explosions (B Brown); the Ventilation of Flix; Detection of Fire Damp; Richmond Mine; Flagstaff Mine; the New Quebrads and the Bolivar Railway Companies (R. D. Mathews); Tonite Explosions; Horsehoes, and Asphalte and Wood Pavement (E. H. Nolan); Increased Consumption of Tin; Mining in Keswick District, Cumberland; Boring Machinery in Cornish Mines; Successful Mines, and Mine Captains; Cardiganshire Mining; Profits of Slate Quarries (R. Hunt); Pembrokeshire Minerals, &c; the Rothschonberger Adit; D'Eresby Mountain; Cornish Mining (C. Bawden); the Cathedral Mine (J. Laby); Patelev Bridge Lead Mining and Smelting Company—Foreign Mines—Scotch Mining Share Market—Registration of New Companies—Patent Matters—Meetings of Western Andes, South Crofty, &c.

Tolgus Consols. - As expected, an important discovery has been made in the sump below the 25.

EAST LOVELL.-The cross-cut towards the north lode is in favourable ground, and the lode is expected to cut rich.

able ground, and the lode is expected to cut rich.

WEST PATELEY (Lead).—The vein (at the Golden Fleece section of the property) in the 20, from No. 2 shaft, has further improved, and continues to open out a rich lode, especially in the sole of the levels. The Craven Cross vein, in the 56, improves as the end approaches the great deposit said to have gone down in the bottom of the old workings. At surface and underground vigorous operations are in progress opening out a mine of no ordinary magnitude.

PATELEY BRIDGE (Lead).—The telegram published in last week's Journal has since been confirmed by the official announcement that the Rake vein in the 30 east has further considerably improved, now worth from 6 to 7 tons of lead ore per fathom. The produce for October amounts to 28 tons of clean ore, worth over 400*l*., at a monthly cost of 340*l*. The mine throughout never looked so well, and smelting and dressing are proceeding satisfactorily.

NORTH CORNWALL.—The immediate prospects of this mine can

NORTH CORNWALL.—The immediate prospects of this mine can be seen by reference to the agent's report, published in another column, but the ultimate value of the property will, it is fully believed, be substantiated by results more quickly realised than probably the most sanguine have any idea of. It is expected by all who have a practical knowledge, and who know the mine, that there is every probability of very large returns indeed being made from the lode in the shaft, which will quickly bring the mine into a divided state of far the creation of universe mechanisms. a dividend state after the erection of proper machinery.

At COMBMARTIN, in costeaning the western ground, as decided upon at the last general meeting, four lodes have been discovered, two of them of a most promising character, and upon one of which a shaft will be sunk, and cross-cuts driven therefrom to intersect a shaft will be sunk, and cross-cuts driven therefrom to intersect the other lodes at a greater depth. In clearing the 15 driven by the former workers fine stones of lead are frequently being met with, and on the 15th inst. a stone was taken out that will yield quite 1 cwt. of silver lead. The agents are of opinion that the old workers must have had a good lode in this direction, which is now being cleared up with a view to continue its drivage under the promising lode discovered at surface, about 40 fins, in advance of the point up to which the add layed her hear degreed. the point up to which the old level has been cleared.

PARRACOMBE (North Devon).—Excellent progress has been made at this mine during the past fortuight, in spite of the very unfavourable weather. At the present rate of driving it is confidently expected that the lode will be reached in less than four weeks from the present date.

A new company has just been formed for working a valuable silver-lead property in the south-east part of Cornwall, to be called

Trelawny Hills. The grant is an extensive one, and has been obtained on very reasonable terms.

tained on very reasonable terms.

FLAGSTAFF.—There is renewed demand for these shares upon the announcement of further fresh discoveries of rich ore, and the brightening prospects of the company's status and affairs in London. There is, it seems, a very determined effort on foot for bringing about some sweeping changes. Two new elections have it is said, taken place this week, both of an important character. The one is Mr. John Garne, a gentleman of sterling business abilities and substantial means—who has proffered financial assistance to the company; and the other, Mr. John Wid, the well-known director of the Cape Copper Company, whose great knowledge of all matters connected with practical mining and his success, are well illustrated in his achievements in connection with the company which has been mentioned with his name. Mr. Wild's acceptance of a seat at the Flagstaff board is regarded as a happy augury for the future of the company. It is moreover rumoured that further important additions or replacements are to take place at an early date. The value of the Flagstaff Mine whom the shareholders have perfect and united confidence: with this and proper management, early and satisfactory results appear to be within easy reach of all concerned.

ZINC ORES.

ARMAND FALLIZE, INGENIEUR-CIVIL, A LIEGE (BELGIUM),

1.-CARBONATED AND OXYDED ZINC ORES (CALAMINE, &c) 2.-ZINO AND LEAD ORES MIXED TOGETHER, BUT DRESS.

ABLE KINDS ONLY

CAPPER PASS AND SON, BRISTOL PURCHASERS OF

LEAD ASHES, LEAD SLAGS, SULPHATE OF LEAD, HARD LEAD, BRASS SLAGS AND ASHES, COPPER REGULUS, MATTE, SCORIA, TIN ASHES, TERNE ASHES, &c., and MIXED ORES OF REFUSE, containing LEAD, COPPER, TIN, or ANTIMONY.

ORE DRESSING.

MR. T. CURRIE GREGORY, C.E., F.G.S,

AND MINING ENGINEER,

OF 4, WEST REGENT STREET, GLASGOW, AND 52, QUEEN VICTORIA STREET, LONDON,

May be personally consulted in London on all matters connected with Ore Dressing and Rock Drills, to which he has for years paid special attention.

Estimates given, and all kinds of Machinery supplied.

REPORTS AND SURVEYS OF ALL MINING PROPERTIES MADE. Exhibition Prize Medal-New South Wales, 1877.

AUSTRALIAN TIN-"KANGAROO" BRAND.

Having recently succeeded in REFINING the AUSTRALIAN TIN to the

HIGHEST PITCH OF PURITY, the Undersigned is prepared to SUPPLY an article equal to the BEST REFINED ENGLISH.

The uniform assay of the "Kangaroo" brand ranges from 99.70 to 99.90 pure tin. An exhaustive comparative trial of various brands of Australian tin (see annexed report) have proved the

"KANGAROO" BRAND

To be superior to all other Australian tin, and equal to best refined English.

COPY OF REPORT.

"Sydney Galvanising Works, Sydney, Oct. 1, 1875."

"Bydney Galvanising Works, Sydney, Oct. 1, 1875."

"Dear Sir,—I have much pleasure in stating that I have found the tin smelted at the 'Kangaroo' Tin Smelting Works superior to any other Australian smelted tid I have used in my business up to the present time, and in no way inferior but quite equal to the celebrated 'Lamb and Flag' tin. This opinion has been arrived at after several carefully executed practical tests, as well as from metallurgical assays.

"I am, dear Sir, yours faithfully,
"S. L. Bensusan, Eq." (Signed) S. ZOLLNER."

Messrs. JOHNSON, MATTHEY, AND CO., the well-known Assayers, report on 24th December, 1875, on a shipment ex Durham, 25 tons of "KANGAROO" TIN, 99 95 per cent, pure tin.

In ordering the "Kangaroo" brand the trade will henceforth ensure uniformity of quality, excellence of texture, and absolute freedom from impurity

"KANGAROO" TIN SMELTING WORKS.

S. L. BENSUSAN. Sydney, September, 1877.

C. (Established 21 Years),
10 Pateley Bridge.
40 Parys Mount., 11s. 9.1
60 Penstruthal, 6s. 6d.
75 Port Phillip, 10s. 91.
25 Rookhope, £1 4s. 6d.
15 Rielmond, £8 10s.
10 Roman Grav., 9s. 3
15 Tankerville, £5 3s. 9d
100 Tecoma, 6s. 6d.
10 The Lovell, £2 17s 6d.
30 Van Consols, 8s. 9d.
10 W. Craven Moor, £8
15 W. Wye Valley.
20 West Pateley Bridge.
40 W. Tankerville, 16s.
40 W. Godolphin, £1 16s.
call paid.

Just published, price 10s. 6d., post free, NVESTORS' HAND-BOOK, containing full and reliable TAYLESTORS HAND-BOOK, containing tuit and reliable information respecting

EVERY DESCRIPTION OF INVESTMENT.

By CHARLES THOMAS, F.S.A., F.G.S.,

3, GREAT ST. HELEN'S, LONDON, E.C.

ON SOLS—BANKS STOCK...

See the "Investors' Hand-book."

FOREIGN STCCK AND See the "Investors' Hand-book." BONDS . -RAILWAY STOCKS AND SHARES.-

INSURANCE AND TELEGRAPH SHARES.—
See the "Investors' Hand-book."

MINES AND MINING SHARES.—
See the "Investors' Hand-book."

TRAMWAY AND MISCELLANEOUS SHARES. -See the "Investors' Hand-book." SHARES, STOCKS, AND BONDS of every description.—
Read "INVESTORS" HAND BOOK."
Published by CHARLES THOMAS, F.S.A., F.G.S.,
3, GREAT ST. HELEE'S, LONDON, E.C.
Now ready, price 10s. 6d., post free.

V A N L E A D M I N E .

Particulars of this very valuable Mine will be found in the Six:

EDITION of Mr. MURCHISON'S work on BRITISH LEAD MINES, publish
THIS DAY, with Maps, &c., price 2s. 6d. The Prefaces to the Six Editio

price 1s. 8, AUSTINFRIARS, LONDON.

TANKERVILLE.

ROMAN GRAVELS,
GREAT LAXEY.
GREAT LAXEY.
MINERA.
LEADHILLS.
DERWENT.
Full particulars of the above and other valuable Lead Mines will be found in the Sixth Editions of Mr. Murchison's work on BRITISH LEAD MINES, published This Day, with Maps, &c., 2s. 6d. The Prefaces to the Six Editions, is.

8, AUSTINFRIARS, LONDON.

8 referemation that may be useful at present. Mr.

"Contains a good deal of information that may be useful at present. Mr. Murchison's theory is briefly that on the average British Lead Mines have less of the lottery element in them than any others, and the figures he gives seem to support that view; at all events, those interested in this industry will find his facts and observations worth reading."—Times.

"Calculated to be a great benefit to lovestors."—Mining Journal.
"We have great pleasure in recommending his treatise."—Morning Post.
"We invite capitalists to look into this means of investment."—Money Market Review.

Notices to Correspondents.

- h ut h inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be files, on receipt; it then forms an accumulating useful work of reference.
- "JUSTITIA" (Holywell).—For the benefit of intending shareholders, who alone are interested, the agreement in the prospectus is referred to. We have made enquiry, and find the specific amount is not mentioned, because the greater part of the purchase money can be paid only under peculiar circumstances. The vendors undertake responsibilities regarding the finding of capital, and guarantee the company against every cost and charge in promotion; for this, power is taken to pay up to a certain amount. You propose the insertion of your letter for the good of "intending subscribers," but we cannot see why, considering that every person really desirous of subscribing would possess himself of all the facts beforeembarking his money. We have also ascertained that those who are most interested in the success of the undertaking have by themselves and friends found the greater part of the capital.

 Arentiteredous Copper Cars.—If "G." (Paris) will write to Messrs. Wilkes

found the greater part of the capital.

Argentiffenous Copper Ores.—If "G." (Paris) will write to Messrs. Wilkes

Brothers, Trinity-equare, he can obtain what he requires.

Brothers, Trinity-square, he can obtain what he requires.

**Received,—"A. R. C." (New York, Oct. 27 and 30): All have been delivered, and will be attended to next week—"M. E." (San Francisco): We shall be glad to receive the particulars—"R. P." (Madras): The letter has been forwarded—"Shareholder" (Wheal Grenville): You are rightly informed, and the change will be notified in due course—"T. D." (York): We should be glad of the particulars—"W. C. H."—"L. O." (Lancaster)—"One Interested "Bodmin): We believe you are correct, but the matter can hardly be considered a fair subject for public reference—"N. T." (Dublin)—"Constant Reader" (Penstruthal)—"Miner" (Bristol): We shall be thankful for all the information that may be sent to us for publication—"N. H.": A letter for Mr. G. Henwood, addressed to our office, will be forwarded—"C. R."—"W. B."—"G. P." (Starcross).

THE MINING JOURNAL.

Bailway and Commercial Gazette.

LONDON, NOVEMBER 17, 1877.

DETERIORATION OF COAL SEAMS.

That some of our best known coal seams deteriorate, and vary in character, thickness, and quality, is found to be the case in most districts, but the points where the marked changes take place are generally known by the mining engineers acquainted with the different localities. But that this is not always the case we had an illustration just recently at the Monckton Main Colliery, near Barnsley, where the coal was reached about a fortnight ago, and where the change was most unexpected, not only by our mining engineers but best known geologists as well, being unexampled in the mining history of the West Riding. The coal sunk to the well-known Barnsley seam, as it is called in Yorkshire, and identical with the Top Hard of Derbyshire and Notts, is usually found in the Barnsley district from 8 feet 3 inches to 9 feet, and it was generally Barnsley district from 8 feet 3 inches to 9 feet, and it was generally expected that at Monekton Main, which is only about five or six miles from the latter town, it would be found of something like the same thickness. But the men engaged in sinking met with a very great surprise, and which cannot but be of the greatest importance to the coalowners whose properties are to the north of the new colliery; and, therefore, is worthy of special notice, not only as regards them but to other mineral owners and lessees of mines as well. The sinkers having gone down to a depth of 470 yards came upon what they considered was the entire and real Barnsley seam, but were greatly surprised to find that it was only about 4 feet in thickness. On this being made known to the chief engineer he at once examined the coal, and then ordered the men to go on sinking, which they did for another 7 yards, when they struck another bed of coal 5 feet 6 inches thick, showing plainly enough that it was a part of the Barns'ey seam, there being 2 feet of excellent "hards" at the top. This was the first time that such a vast parting was found, severing this fine seam of coal, which covers several hundreds of square miles between Nottingham and Barnsley, and proves that in the northern part of the field the bed is divided by a very thick parting of stone and dirt, which renders the working of it in its entirety by no means an easy matter, whilst the probability is that it increases as it goes forward in the same direction until the division becomes greater, and the seam goes out altogether in bending round eastward, and disappearing under the limestone. However, the sinking at Monekton Main shows in what position the same coal may be expected to be met with still further north, with respect to which our mining body had no previous reliable knowledge.

Underlying the same seam, at an average depth of about 380 yards, there is the well known and valuable Silkstone coal, which in the northern portion of the field is also intersected by a considerable parting of dirt, whilst the quality also varies. The extent of this expected that at Monckton Main, which is only about five or six miles from the latter town, it would be found of something like the

mining engineers take a contrary view. The latter, including the President of the Midland Association of Mining Engineers, considers that the Silkstone, and what is known as the Middleton Main, or New Hards coal, which runs from 2 to 4ft. 6 in. in thickness, are New Hards coal, which runs from 2 to 4ft. 6 in. in thickness, are one and the same, the distance between the latter and the Blocking bed being about 100 ft. In some places the Silkstone coal is nearly 6 ft. in thickness, whilst in others it will be from 3 to 4 ft. only, with dirt partings increasing in extent as the coal leaves the neighbourhood of Barnsley and is worked to the north. The quality, however, varies very much, that in South Yorkshire being known as an excellent house coal, whilst in the Wakefield and Leeds districts it is not. Within about a couple of miles of Barnsley, at the as an excellent house coal, whilst in the Wakefield and Leeds districts it is not. Within about a couple of miles of Barnsley, at the Stanhope Silkstone Colliery, which is to the north of the town, there is a dirt parting, which may be said to be the commencement of the separation which takes place in the seam as it is worked in that direction, and increasing as it goes on. This is a new dirt of a particular character, and is quite independent of the thin hand found in the middle of the Silkstone coal; and not, as Prof. Green has stated, that it is the main dirt that increases, an opinion which is successfully combatted by Mr. W. Chambers, the manager of the Silkstone Colliery, who appears to have paid considerable attention to the subject, and who, from observations taken in the workings, shows that the dirt is apart from the dirt found in the seam in most places. Proceeding to the north-west portion of the Silkstone Colliery, the dirt first sets in on one side at ½ in., and goes on inplaces. Proceeding to the north-west portion of the Silkstone Colliery, the dirt first sets in on one side at \(\frac{1}{2} \) in., and goes on increasing until it reaches 4 ft. 2 in., whilst what may be termed the old dirt only increases from 11 in. to 1 ft. One section taken in the pit gave 4 ft. 4 in. of coal and 12\(\frac{1}{2} \) in. of dirt only; whilst another one gave of coal 4 ft. 5 in., and of dirt no less than 5 ft. 2 in.

That they will go on increasing, as in the case of the Barnsley coal, there appears very little doubt from what is known of it.

Of course there is great difficulty in working a seam of coal so divided, besides the extra expense that must necessarily be caused in the shape of wages, &c. But one of our objects in calling atten-tion to the deterioration found in some of our best known coal our best known coal seams when removed a distance in certain directions from where they have long been worked and known is to show how very im-portant it is, in opening out in a new district, that the measures portant it is, in opening out in a new district, that the measures should be first bored through and proved before sinking operations were commenced. In the West Riding of Yorkshire, as well as in many other mining localities, the reverse has been the case, and we could point to works new standing abandoned where, had such a course been adopted, many thousands of pounds would not have been thrown away in vain efforts to reach what did not exist, or, if it did, in such a broken condition as to make profitable working impossible. There is also another point worthy of the consideration impossible. There is also another point worthy of the consideration of our geologists and mining sacans—the identifying the various seams of coal in different districts, and placing them under one head, for we have the Si'kstone coal called by careral named in the coal called by careral named in the coal called by careral named in the called by for we have the Silkstone coal called by several names in addition to the one by which it is known in South Yorkshire. In West Yorkshire it is believed to be identical with the Middleton Main, in Lancashire it has been proved to be the Arley Mine, and in Derbyshire it is the Black-Shale. In London the seam is known as the Silkstone, and as such is in great demand, more particularly for house and gas purposes, being second only in price to the best Wallsends,

The bringing, then, of all the coals of the same formation under one head, and showing the variations in different districts, is a work that could not fail to be of more than ordinary importance, and would be one worthy of being carried out by our ablest geologists, who would be sure of the cordial co-operation of the mining body for such a purpose.

THE PRODUCTION AND CONSUMPTION OF COAL.

The extraordinary theory of Mr. Macdonald that miners' wages can only be sensibly increased by the limitation of the production of coal, without any act on the part of colliery proprietors, has been thoroughly refuted by the actual state of trade. During the last few weeks production has fallen off, for in the Durham district alone, weeks production has fallen off, for in the Durham district alone, according to the statement issued by the executive of the Miners' Association, 16 collieries have been stopped entirely and five partially so, owing to the depression in the trade, whilst in most other districts the men are not working full time. In spite of this state of affairs the price of coal, both at home and abroad, so far from having advanced, has actually declined. If we take London as a fair type of what is being done principally in house coal, we find that the total increase in the consumption for the last 10 months in comparison with the same period of last year was only 25,717 tons, showing plainly that the quantity consumed does not keep pace with the increase in the population, as has hitherto been assumed to be the case. Not only so, but prices are now 2s, per ton lower than they were a few weeks since, although we have nearly arrived at what may be considered the busiest season of the year. This certainly does not bear out the view of Mr. MACDONALD and the poor fanatics who look up to him as their leader and monitor, and who are all evidently opposed to the sensible course and opinion of Mr. Burr, the member for Morpeth, between whom and Stafford's blustering representative there is the widest possible divergence on blu-tering representative there is the widest possible divergence on the coal question, as there is difference in the public conduct of the two men who are sent to the House of Commons as the representatives of the same class of workers. One is as much respected for his modest worth and the sound common sense which he brings to bear on all matters in which the miners of the North of England are interested, as the other is for the virulence and coarseness of his language with respect to all persons officially connected with collieries, more particularly managers, owners, and Government

lieries, more particularly managers, owners, and Government Inspectors.

However, to revert back to the consumption of coal we find that whilst for many years past there has been an annual increase in the tonnage of coal exported, this year will, undoubtedly, be an exemption. This applies more particularly to what is sent to different parts of Europe. This, it might be considered, is one of the results of the war now raging between Russia and Turkey, but is really not so, for the greatest decline has been in the business done with Germany, to which country 185,103 tons of coal were sent last month, against 256,436 tons in October, 1876; whilst Denmark, and Sweden, and Norway have also taken less. This change to a very great extent is evidently due to the action taken by the colliery owners of Westphalia, who are now the keenest rivals our own proprietors have for the trade of the North of Europe, and have certainly made great strides of late. Our exports to Russia last month also fell off to 49,652 tons, against 89,975 tons for October of last year. It may be asked how is it that the German coalowners are evidently supplanting us in several of the European markets where scarcely anything else but English fuel was known? The answer is that they planting us in several of the European markets where scarcely anything else but English fuel was known? The answer is that they can undersell us in several ports, so that English owners of collieries have been obliged for the purpose of selling the quantity of coal they have done to do so at a very low figure, without considering the question of profit. Notwithstanding the sacrifices thus made, however, they have been unable to maintain the foreign trade, for last month the total exports were 1,283,203 tons of coal, against 1,525.854 tons in October, 1876. Yet whilst the average price during the last-named month was 10s. 7d. per ton, in the present year it was only about 10s. Taking the ten months of 1876, we find that the falling off in the quantity of coal sent abroad was less by 648.899 tons than for the corresponding period of last year, the rethat the falling off in the quantity of coal sent abroad was less by 648,599 tons than for the corresponding period of last year, the respective returns being 13,181,103 tons and 13,229,702 tons, and the deficiency is certainly not likely to be made up before the new year. The actual condition of the trade at present may be easily summed up—a falling off at home in the consumption of coal for household and manufacturing purposes, a marked decline in our exports, with low prices for what is required both at home and abroad, a number of collieries entirely standing, many only partially employed, and some thousands of men and boys entirely idle. Yet with these facts staring us in the face we are told that the time has arrived when in the interest of the miners throughout the country it is necessary that the present output of coal should be limited. it is necessary that the present output of coal should be limited.

OUR RAILWAY IRON ABROAD.

OUR RAILWAY IRON ABROAD.

The experience afforded by October in the rather important matter of the external demand for our railway iron is rather more encouraging than might, perhaps, have been expected. The total shipments of the month were 56,048 tons, as compared with 37,728 tons in October, 1876, and 40,732 tons in November, 1875. The foreign demand, properly so called, was extremely weak in October; but the colonial demand came bravely to the rescue. If any proof is wanted of the accuracy of this assertion, it may be found in the fact that we sent no railway iron whatever to the United States in October, and only 5101 tons to Russia in the same month, although in October, 1876, the Czar's empire absorbed 10,310 tons. The exports to Sweden and Norway and also to Spain presented some improvement in October, but the deliveries in almost all other directions were really insignificant. But then, as we have just observed, the colonial demand came brayely to the rescue. In October the the colonial demand came bravely to the rescue. In October the deliveries to British America, British India, and Australasia compared as follows with the corresponding exports in October, 1876,

October, 1875. October, 1876. October, 1877.

DIS 760 3,324 4,013
6,303 4,578 23,249
9,193 3,973 10,306

rigour with which the Anglo-Indian account is attributable to the vigour with which the Anglo-Indian Government is prosecuting the network of State lines. Of late, too, there has been an important development of traffic upon the leading Indian guaranteed lines, such as the East Ladian the Great Valley of the State Country of the State Country of the State Country of the State Country of the State St development of traffic upon the leading Indian guaranteed lines, such as the East Indian, the Great Indian Peninsula, the Madras, and the Bombay, Baroda, and Central India; and as these lines now involve scarcely any burthen to the Anglo-Indian Treasury in respect of its guarantee of interest, the Secretary of State for India in Council is not very chary of sanctioning extensions, sidings, duplications, and permanent way improvements. Such works as these necessarily absorb a considerable quantity of our railway iron, and it is a most fortunate circumstance in these times of extreme difficulty and depression that this should be the case.

The statistics of our export iron trade for the past two years—

alty and depression that this should be the case.

The statistics of our export iron trade for the past two years—

The statistics of our export iron trade for the past two years—

The statistics of our export iron trade for the past two years and it may be well to note that the aggregate exports to Oct. 31 this year were 419,161 tons, as compared with 358,873 tons in the corresponding ten months of 1876, and 488,212 tons in the correcorresponding ten months of 1876, and 488.212 tons in the corresponding ten months of 1875—point unmistakeably to the conclusion that credit has altogether shifted its ground during the last two eventful years. Thus, in consequence of the default of interest which occurred upon Tarkish bonds in October, 1875, there has been an almost complete collapse in our exportsof railway maderiel to Turkey, only 299 tons having been sent to the Ottoman Empire in the first ten months of this year. The three principal South American countries—Brazil, Peru, and Chilli—have also suffered severely from the distrust entertained of foreign bonds. The exports to Brazil have, upon the whole, shown some advance this year; but the deliveries of our railway iron to Peru and Chilli can now be only reckoned by hundred weights where before they were calculated by tons. Taking the South American market generally in October, it must be said to have exhibited extreme weakness in that month. Thus, in October

to Chili 65 tons, making an aggregate of 2671 tons. On the oth hand, amid the crash of imaginary credit in Turkey, Egypt, Sou America, and elsewhere, Australian and Indian securities have be sensibly gaining ground during the last two years; and the res has been that there has been a large increase in the consumption our railway iron in our Eastern Empire and our Antipodean department.

COPPER SMELTERS—COPPER MINES.—The continued great faduring the last six months more especially, in the standard for copper ores at the Cornish ticketings is a most serious matter for such mines as Devon Great Consols, South Caradon, West Tolgu Mellanear, West Seton, Marke Valley, Crebor, Glasgow Caradon, an others, selling as they do large quantities of copper ores at a most number of the serious distribution of the serious complaints are manifested at the excessive low prices given by the smelters, and it is high time the manage of Cornish and Devon copper mines held a meeting to take son obtained, the copper smelters can well afford to give considerable enhanced prices for ores, and still make a magnificent profit. Sure it is to the interest of the smelters not to be too grasping these hat times, but to stretch a point in order to keep all those mines worth of being worked at work, and avoid a great collapse, which it is great feared must fall ere long upon some of the struggling comanies. COPPER SMELTERS-COPPER MINES, -The continued great for

of being worked at work, and avoid a great coilapse, which it is great feared must fall ere long upon some of the struggling comanies.

PREVENTION OF COLLIERY ACCIDENTS.—Our views with respet to Ansell's Fire-Damp Indicator, as stated in last week's Journal from Mr. J. Brown, who was formerly the consulting engineer of the invention, as well as to its entire worthlessness for collier of the invention, as well as to its entire worthlessness for collier purposes, and that explosions in collieries will take place despit the amount of ventilation. Expression was given to similar view a few days ago by Mr. T. W. Embleton, the oldest and most eminer consulting mining engineer in Yorkshire. He said that as to the working of collieries, they must always look to the safety of the working of collieries, they must always look to the safety of the working of collieries, they must always look to the safety of the working of collieries, they must always look to the safety of the working of collieries, they must always look to the safety of the subject, and on one occasion, when 25,000 cubic feet of air w passing per minute, he had examined the workings himself, and had found gas. How was it possible, then, that this part of the Act means it that Mr. Macdonald said those who did not comply with the Act were murderers? He showed he knew very little about the subject. Such accumulations of gas were very frequent in the Sont Yorkshire district, and though the greatest amount of ventilation might be provided explosions would take place, and could not prevented. He said from the first that the present Act of Parliment could never be carried out, for those who made it were totally ignorant of the circumstances. It was impossible to prevent accumulations of gas, and no ventilation would removeit. At the Old Colliery 140,000 ft. of air were passing per minute, yet an outbur of gas occurred, and the lamps were suddenly put out. If nothin had happened it would have been anything wrong with the lamps ther would have been an explosion. T mode of working them.

GETTING COAL WITHOUT GUNPOWDER. - In another column GETTING COAL WITHOUT GENPOWDER.—In another column will be found an interesting account of some experiments in welging down coal by hydraulic pressure, in order to obviate the difficult experienced in driving the wedges by hand labour. The arrangement is the invention of Mr. Israel Knowles, of the Pearson and Knowles Coal Company, at Ince. The trial was made in the Pemberton Fire-Foot Mine. A half-inch hydraulic ram was used, and connected the wedge by iron tubing. The weight of the coal dislodged was about 4 tons, and the proportion of slack was much less than usual. Much interest was expressed in the trials by all present, and the was a general opinion that the invention will prove equally advanced by the coal dwarf and working colliers. tageous to coalowners and working colliers.

COAL AND IRON IN THE UNITED STATES. - Transactions in ste rails at New York have been heavy; besides some large contract known to be closed, but the particulars of which have not transpire, a sale is mentined of 12,000 tons on private terms. The sale has also been noted of 1210 tons for the Crucy Island Railroad, to be delivered at Bay Ridge, Brooklyn, at \$41.60 per ton currency. The Philadelphia market for steel rails appears to have settled down to about the old quotations. The total sales for Octoberat Philadelphia amount to about 60,000 tons, the market glory at \$40.50 and \$42. amount to about 60,000 tons, the market closing at \$40 to \$42 ton currency at the mills. There are further enquiries, and it is pected that at least 40,000 tons more will be disposed of before Pelaste Philadelphia, and nothing of importance has transpired for time past. There has been little change in the pig-iron trad Pennsylvania. No transactions of importance have been reportant Philadelphia in plates or took iron. The has iron trades at Philadelphia in plates or took iron. at Philadelphia in plates or tank iron. The bar iron trade har ruled generally dull at Philadelphia. The coal markets have weak, and quotations for all brands of coal have been low-se indeed, as to leave scarcely any profit.

INVENTORS' INSTITUTE.—For promoting and protecting the terests of the less wealthy class of inventors intending to offedence of their ingenuity at the International Exhibition of 1855 late Mr. R. Marsden Latham, M.A., Barrister at Law, conceive hate Mr. R. Marsaen Latham, A.A. Barrister-at-Law, conceived happy idea of inaugurating an institute which should bring toge the previously divided and not very satisfied class—inventors such a manner that all should be led to comprehend that they many interests in common, and that it was to their mutual adtage to act in concert. In a very short time the list of ment under the presidency of Sir David Brewster, included a large portion of the leading inventors of the country, Whitworth, Berry Signapas Varley, and others of equal repute occupying I portion of the leading inventors of the country, Whitwords mer, Siemens, Varley, and others of equal repute, cocupyit tions on the council. Sir David Brewster, and several other supporters of the Institute, have passed away, and other grown too old to take the same active part in the business ociety as formerly, but in the secretaryship the original has been succeeded by his colleague, Mr. F. W. Campin, Baat-law, who is equally well acquainted with the requirement members, and thus the Inventors' Institute retains vitality, and the secretary of the Rual inaugurate its 16th annual session at the rooms of the Rays of Literature, Charing-Cross, on Nov. 29, under the pression Antonio Brady, J.P., F.G.S., who has ever been reconstructed in the control of t a warm advocate of inventors' rights, and who, during the has occupied his present position, has given great satisfaction members from the energy he has displayed in connection will movement on their behalf, and on behalf of inventors in glain transmissions. It is but reasonable to anticipate that in view of the forther International Exhibition at Paris the numerical strength of the International Exhibition at Paris the numerical strength of stitute will largely increase, as it is not unnaturally suggested whatever may be the advantage of membership in connection international exhibitions in England, it must be far greater it nection with those in countries the language and customs of

STONE-BREAKERS.—According to his improvements in stone-breakers, Mr. Edward Gimson, of Stalybridge, constructions frame having two fixed jaws facing inwards towards other, and acting between and against these he has two other, and acting between and against these he may be a pay facing outwards. These jaws hang upon strong entress and are actuated alternately by means of a rocking lever and "toggles" placed between them. The rocking lever is centred and is rocked by means of an eccentric formed or keyed upon the same at or near its upper end. The tric works in a brass or bearing which slides vertically in a state of the rocking lever, so that it morely rocks the latter without the rocking lever, so that it morely rocks the latter without the rocking lever. have exhibited extreme weakness in that month. Thus, in October we only sent to Brazil 923 tons, to Peru nil, and to Chili 39 tons, making an aggregate for the month of 962 tons. The corresponding exports in October, 1875, were:—To Brazil 2441 tons, to Peru 165 tons, and the sides it may be turned one-quarter round, and used again to the sides it may be turned one-quarter round, and used again to the sides it may be turned one-quarter round.

of two tens and is chase with a leftleft-hand so tension rod between the Nov. 15.st though p

meh more may, therefore the "other modition of

Nov.

ally. The variety reactions of the mence of the resignment particulation. It is a might readictly true the rest that that mence of the rest that the s the startin mkground, al been und he startiz The impres

Myages 14.-Th

Pport read t

is exp Whitbu boreched a de on Trade
ost bran
n both t e likely

es, the who

the position. The bearings or brasses which support the main shaft, the position. The bearings or brasses which support the main shaft, swell as those of the axes of the rocking lever, are also formed so at they can be turned one-quarter round for the same purpose, at they can be turned one-quarter round for the same purpose, and they denote the same purpose of the purpose of the same purpose of the sam

REPORT FROM CORNWALL.

No. 15.—The error which was made in London last week in con-Most 15.—The error which was made in London last week in consting with the tin standards is, perhaps, hardly to be wondered though possibly a little reflection might have led to the conclusion of the was too good to be true. As a rule, however, people are in more ready to believe bad news than they are good, and we may meet the ready acceptance of the announcement of the content of the announcement of the market, and of the aspect of mining affairs generally may be a proof of the confidence felt in the improved the market, and of the aspect of mining affairs generally may be a power than the same sold under the interval of the sourt were in most cases at any rate worth quite what silp. He was a substance of the spurt were in most cases at any rate worth quite what is seen of the spurt were in most cases at any rate worth quite what is seen for them, so that if the sellers did profit the buyers were as great charlety injured, save from a purely speculative point of a particularly injured, save from a purely speculative point of it is very easy to see how the mistake was made, and how it. It is very easy to see how the mistake was made, and how it. It is very easy to see how the mistake was made, and how it. It is very easy to see how the mistake was made, and how it. It is very easy to see how the mistake was made, and how it. It is very easy to see how the mistake was made, and how permitted in the substance of course, depended entirely upon what was taken as the stating point. They took their last official figures which a substantial point. They took their last official figures which a substantial point. They did was to make that official which is been unofficial. This was, no doubt, an important step, so far the continuous the unward tendency of the market, and giving good been unofficial. been ununtrated to the market, and giving good do to hope for another probably "unofficial" move before long, was avery different thing to taking the actual market prices t was a very different thing to taking the actual market prices is starting point. The lesson we draw from this is one which are had occasion to point out more than once—that if we are use official prices at all they should mean what they profess to he. They must be open to a little fluctuation in the intervals here the meetings of the smelters, but surely something might to make the correspondence more exact than it has been

pression in Cornwall is that there will be another rise in The impression in Columbia is that there with be abother rise in standards, certainly before the month is out. We shall see that the Banca sale will produce, but we may not have to wait so least that. It is not at all unlikely that if current anticipations are raised the stocks of black tin now held in the county will see the reduction before the new year, but they are in excellent hands, at there is no fear that they will be launched upon the market to the standard of the rise of

na-clay market appears to be overstocked, which is no mechanism the manner in which production has been stimu-ple and developed of late years, and the way in which the demand as sympathise with the general flow of trade. There is likely siderable exodus of the men, in consequence of the want

South Crofty meeting it was stated that the cost of work the sound crofty meeting it was stated that the cost of work-the Burow borer is rather less than that of hand labour. This rey important point. It has been stated, on the other hand, the cost of working the Beaumont borer is in excess of hand in. Is it not possible to have exact statistics in either case, point is really a most important one; for the borer which will meetimes the work of hand labour at a lesser cost is likely to grassful in ordinary mining operations than one which will types the work at an increased cost. Why does not some ix times the work at an increased cost. Why does not some sh exact details?

dly there is much sympathy felt with Capt. John Bawden gredy there is much sympathy felt with Capt. John Bawden, soath, and his family, at the sad intelligence which has reached from Mexico. Capt. Bawden's son—in the prime of manhood, elligent and successful mine agent, and a most affectionate re-has been killed in an unfortunate dispute with some of the ansnear his home, at the Real del Monte Mine. Capt. William re, the decased, learnt his business under his father at Doljatas his parent, when a boy, applied himself to his duties the late Capts. Tredinnick, Petherick, and Charles Thomas. with the late Capts. Tredinnick, Petherick, and Charles Thomas, within Bawden does not disregard science or theory; he holds. When, that a man of common sense will lisen to the theorist, and ligive a still more attentive ear to what science may have to say, that no good mine captain can be made by either or both, and underground and at surface. He gave expression to some thiews on a semi-public occasion only a few months ago, and—mot 55 and of 11 score—was able heartily to respond to the stofhis "Good Health." Since then some internal disease has threades. The number of Dolcoath agents who have languished the some internal complaint is rather remarkable. some internal complaint is rather remarkable

TRADE OF THE TYNE AND WEAR.

TRADE OF THE TYNE AND WEAR.

Man branch of it can be described as brisk excepting gas, which had no branch of it can be described as brisk excepting gas, which had no branch of it can be described as brisk excepting gas, which had no server steady. A severe winter would have caused an inhead demand for house coal, but there is no appearance of that at beat. The Hamstead Colliery has been stopped, but to balance the Wheatley Hill and Ludworth Collieries, belonging to the man Hartlepool Company, have again been started. Those was were closed some time ago mainly on account of differences because the masters and workmen, but their disputes have now happily adjusted. The number of collieries closed in Durham belonging that if we take 30 collieries, and the annual output at any tons at each work, which is not excessive, be got an annual ons at each work, which is not excessive, be got an aroual of the output of 3,000,000 tons. The process of bringing at down to the demand for coals is, therefore, going on Themen out of work in both counties have been to a great ported from the funds of the Union, and this has had the elieving the ratepayers. In Northumberland the funds of have for this and other purposes been drawn on so liberally are now nearly exhausted, and the men are urgently re-ythe Union officer to increase the amount of their fort-becipitions. It is certainly a heavy burden for the men ese contribution, as their fortnightly earnings are so much wing to bad trade. In Northumberland there are winers, and of these one in 15 are idle at present. to 50,000 miners, and one in 10 are out of work, supported from the funds of the Union. , and these

as a meeting of the North of England Institute of Colliery on Siturday at the Literary and Philosophical Society, when the chair was occupied by Mr. John Coulson. A read by Mr. John Gibson, of Ryhope Colliery, "On Wire Pastenings"—a most important practical subject, and it discussed after the reading of the paper, but a more full is expected at the next meeting of the Institute. Withhur new winnings to he invent the Chandray extraory

hithurn new winning the boring on the Chaudron system on the whole, to progress well, although, as was anticified that the limestone is very hard and difficult to penee bore—5 ft, in diameter in the centre of the shaft—has ed a depth of 120 ft., and as the shaft was completed on etem to a depth of 160 ft., the total depth from the surface is 280 ft.

18 230 ft.

Trade, both for pig and manufactured, continues very thranches, but in Cumberland there is considerable aniboth the steel and iron trades, and it is expected that furnaces now out will be re-lighted shortly. New steelthe furnaces now out will be re-lighted shortly. New steel-are likely to be erected; ground has been secured by the off Hematite Iron Company for this purpose near to their the whole of which continue in full blast. For the new

steelworks 14 acres of ground has been leased, and it is expected that an early commencement will be made with the erection of the works. The working of the collieries and brickworks in Cumberland has also improved a little.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Nov. 14.—Considerable indignation is felt in this region at an unjustifiable attack on the orderly character of the working population of North Wales recently made by a letter written in the Times. This writer instances the Mold collier riots of some years ago, and those which have more recently taken place at Hafod-y-bwlch, near Ruabon, and at Bagillt as examples of the lawlessness of the Welsh people. The writer might, at least, have made himself acquainted with the facts before he rushed into print with so grave a charge. Those who know the districts in question are well aware that, situated as they are on the very outskirts of North Wales, they contain a very mixed population, and that there is a large proportion of low English and Irish workmen, who have been attracted by the works and collieries of the district. The writer also fails to estimate the extreme provocation which in two of the cases alluded to especially the rioters had received. To study the character of the masses of Welsh working men proper the writer should spend a short time among the slate quarrymen of Festiniog and L'lanberis, for I will venture to say that for thrift, respectability, order, and sobriety no community of working men can be found to equal the dense population of those districts.

Notwithstanding the general depression in trade at home, and the leaving of the Baltin poets for the winter, the Slate Trade of North Nov. 14.-Considerable indignation is felt in this region at an un-

dense population of those districts.

Notwithstanding the general depression in trade at home, and the closing of the Baltic ports for the winter, the Slate Trade of North Wales keeps uncommonly good, and there is a movement among quarry owners for another advance in price. The advances made during the last ten years reach a total of 30 per cent. on the current prices of 1867. The ports are crowded with ships waiting for cargoes, and it is rumoured that the difficulty of obtaining these leads to the extortion of a good deal of "backsheesh" from the captains. If this is true it is a serious matter, and one that ought to be well looked into by the owners of quarries, who, after all, will doubtless have to pay. Two advertisements in the Mining Journal show a little movement in the development and transfer of slate quarries. The Castle Cidwen Quarry is in the midst of a good district, but one that for want of rail way communication has hither to been neglected. The Castle Cidwen Quarry is in the midst of a good district, but one that for want of railway communication has hitherto been neglected. Several small trials of great promise have been made round Quellyn and Dinas lakes, and now that an instalment of the proposed narrow-gauge railway from Carnarvon via Beddg-lert and Capel Curig to Bettws-y-Coed is made the district ought to attract capitalists. The vendors are, however, in error in supposing that their quarry is on the same series of veins as those worked in the Penrhyn and Dinorwig Quarries. Their vein or bed is several thousand feet higher up in the series of strata than those of the quarries named, and it is nearer the horizon of the Festiniog veins. The owners have, however, only fallen into a common error. If all the slate quarries in North Wales said to be on the Penrhyn and Dinorwig vein were really worked on it, that vein would be of a peculiarly circular and ambulatory shape. There is no need for the vendors to borrow merit. I agree with your correspondent, who thinks that the promoters of the Dynin Slate Quarry should, in asking for money, have given more precise information. Is the quarry an old one resuscitated? If so, when was it last worked, what work has been done, and why was it abandoned? The quarry may be none the worse for being an old one, because some of the best quarries in Wales have at times been abandoned, but in these days it is best for borrowers to give and for lenders to receive the fullest information. I would add that Corris can hardly be said to be near; it is ten or twelve miles from the quarry, and here, again, it is a pity that fictitious merit should be borrowed for an undertaking that may have within itself all the elements of success.

An effort is being made to raise additional capital to work the Pool Park Lead Mines, which, lying to the south of the Miners that for want of railway communication has hitherto been neglected.

itself all the elements of success.

An effort is being made to raise additional capital to work the Pool Park Lead Mines, which, lying to the south of the Minera Mine, are to be called South Minera. These are old mines, and large sums of money have been expended on them. One of the original adventurers was the late Mr. Edward Morris, the owner of the Van Mine, when its success was assured. Hitherto the adventurers have not been rewarded with the success they have deserved, but as the mine is in a highly mineralised range of limestone, and closely adjacent to a successful mine, let us hope they will with this effort attain it.

It is rumoured that the works of the Daywell Colliery, It is rumoured that the works of the Daywell Colliery, near Gobowen, are about to be resumed. This undertaking was started in 1873, and two shafts have been sunk to what is probably the Dirty or Drowsal coal, below which, at a depth of from 20 to 30 pards, the Quaker coal of the district should be found. On the whole, the coal trade of the district is depressed, as is evidenced by the trains of loaded trucks that fill most colliery sidings. The old limestone quarries worked for many years by Mr. Wright, near Llangollen, are offered for sale. These have communication with the Great Western Railway, and with the Shropshire Union Canal, and have been worked successfully for many years. But the last two years have been bad ones for trade in limestones used as fluxes, owing to the depression in the iron trade. wing to the depression in the iron trade.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Nov. 15.—In the Coal Trade business has not improved since my Nov. 15.—In the Coal Trade business has not improved since my last. The prices of slack are kept low by an increase of stocks. Ordinary forge coal is quoted 7s. 6d. to 8s.; best forge with furnace coal, 9s. The demand for pig iron is unimproved, and stocks at the furnaces remain heavy. Prospects as to finished iron are not brighter. Unless by the end of the year a customer can be found for the raw and finished ironworks and the collieries of Messrs. G.

Colliery, for neglect of the third and eighth special rule for neglect to examine the boilers and machinery daily. Mr. Beddow, one of the owners, appears to have been his own certificated manager and his own colliery engineer; at least there was no one between Crane and Beddow. Mr. Beddow had since died, and Crane had charge of the machinery. In March he new-lagged a drum in such a way as to shorten the horns, and in the result the rope miscoiled, dropped a barrel, and killed two sinkers. Granger, the other engine tenter, was similarly charged. Both men were regarded as engine tenters only, and fined 10s. each, and costs.

The Walsall Wood Colliery Company have been successful in their efforts to reach the Thick coal of the Cannock Chase district. It is at a depth of 545 yards, and is 4 ft. 10 in. thick. A 15 ft. shaft has been sunk to this Thick coal, and, so far, the aggregate thickness of all the coal passed through is 40 ft. The shaft is one of the deepest in South Staffordshire.

In South Statiordshire.

The action which the Mines Drainage Commissioners intend to take with regard to obtaining further powers to amend their Act of 1873 is much discussed in both coal and iron trade circles, and is likely to meet with considerable opposition, as several large collieryowners have, it is said, resolved to spend a great deal of money rather than allow the Commissioners to have more sway. A good many look upon the operations of that useful hely with report disc rather than arrow the Commissioners to have more sway. A good many look upon the operations of that useful body with great disfavour, especially those who are not much benefited by their operations, and still are called upon to pay the rates levied. The general good of the district is not considered. At last week's meeting of the Commissioners Mr. R. Williams drew attention to the exorbitant claims for pumping and other work done for the Commissioners by almost everybody with whom they came in contact as to the surface drainage.

Surface drainage.

Exaggerated rumours have been current in some of our contemporaries within the last few days that the New British Iron Company are about closing their extensive Corngreaves Works, at Cradent Corngres Works, at Cradent ley, near Dudley. We learn authoritatively that the works were only standing last week, owing to the slackness of trade. The company are preparing to start their machinery as usual. They have, like many of their competitors, been working with only a small margin of remuneration, while others in this district it is well known are making iron at a loss.

The coal and iron trades have as it were attained civic honours.

known are making iron at a lo-s.

The coal and iron trades have, as it were, attained civic honours in this district this month, for Mr. David Kendrick, the senior partner of the Willingsworth Furnaces, near Wednesbury, has been chosen Mayor of the town, and Mr. William North, mining engineer and coalmaster, has been elected to a similar office in Dadley. The new Mayor of Sheffield, Mr. Mappin, is a steel manufacturer.

We understand that the fund now being raised on behalf of the widow and family of the late Mr. John Jones, the general secretary and, to some extent, the founder of the Iron and Steel Institute and

widow and family of the late Mr. John Jones, the general secretary and, to some extent, the founder of the Iron and Steel Institute, and who was at one time the secretary of our South Stafford-hire Iron-masters' Association, now amounts to upwards of 1850. Among the list of contributors are the Duke of Devonshire, K.G., 150.; Bill Brothers (Limited), 150.; Henry Bassemer, 100.; Bolekow, Vaughan, and Co. (Limited), 100.; Consett Iron Company (Limited), 100.; Robert Heath, M.P. for Stoke, 100.; William Menelaus, 100.; Samuelson and Co., 100.; Dr. Siemens, 100.; William Menelaus, 100.; Walter Williams, 20.; E. Fisher Smith, 21.; &c. Further appeals are being made to those members of the iron and steel trades in this country who have not yet been appealed to. Mr. Jones's great merits were well recognised verbaily at the meeting of the Iron and Steel Institute, held at Newcastle, and it was felt that to assist his widow and family, whom he had left in poor circumstances through the failure of certain ironmaking firms in which he had invested his savings, would be the best means for practically showing their appreciation of his services.—Wolverkampion Chronicle.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Nov. 15.—There has been little change in the state of the Iron Trade of either Derbyshire or the West Riding during the past week. The production of pig is much as usual, and is being pushed in some comparatively new markets. In Sheffield there is a little more doing in some of the cutlery branches, more particularly for Australia and other of our colonies, but not sufficiently so to find full employment for all the hands. The creditors of the Northfield Iron Company having agreed to accept a composition of 10s. in 1/1, it is expected that the concern will shortly be again in full working operation. Steam coal, it may be said, has been moving off very well, the Baltic being kept open this year much beyond the usual time. In house coal a fair trade has been done both locally and otherwise, but prices have undergone very little alteration.

usual time. In house coal a fair trade has been done both locally and otherwise, but prices have undergone very little alteration.

The rules of the Widow and Orphans' Fund of the South Yorkshire and North Derbyshire Miners' Association have been submitted to Mr. F. R. Neison, actuary of London, in order to ascertain the relative advantages of that fund, and the Miners' Permanent Relief Fund recently established in South Yorkshire and North Derbyshire. His report, presented to the Miners' Association on Monday, shows that to provide the benefits set forth in the rules of the South Yorkshire Miners' Association to widows and orphase in cases of sociations. shire Miners' Association to widows and orphans in cases of accident and natural causes, would require ten times more than the present rate of contribution, whilst the Miners' Permanent Relief Fund, providing only in cases of accident, is founded on a reasonable basis. The matter was discussed by the council, and left over for further considerations.

basis. The matter was discussed by the council, and left over for further consideration.

A meeting of the Northfield Iron Company (Limited) has been held at Sheffield, to receive a report as to the resolutions adopted by the creditors of the company at their meeting on the previous day. The creditors had, after discussion, decided to accept a composition of 10s. in the pound, but amongst them there was one dissentient who declined to sign the resolution. Subsequently, however, he was

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

No. 15.— In the Goal Trade business has not improved since my last. The prices of slack are kept low by an increase of stocks. Ordinary forge coal is quoted 7s. 6d. to 8s.; best forge with furnace coal, 9s. The demand for pig iron is unimproved, and stocks at the transces remain heavy. Prospects as to floished iron are not brighter. Unless by the end of the year a customer can be found for the raw and finished ironwowks and the colliers of Mesers. Go flowers, Law been purchased, and will be carried on by Messrs, have been purchased, and will be carried on by Messrs. John and Isaac J. Jenks, of Wolverhampton. The obstacle to a successful termination of the difficulty that had arisen as to the sliding scale for the regulation of wages in the coal trade has been removed by the colliers of Dudley and Netherton (who before had held aloof) having now agreed to the new terms. And the second meeting of representative coalmasters and colliers delegates, held aloof) having now agreed to the new terms. And the second meeting of representative coalmasters and colliers delegates, held an ordinary of the colliers of Dudley and Netherton (who before had needing of the colliers of Dudley and Netherton (who before had previously determined upon.

On the Birmingham Exchange the shares of the Sandwell Park Company (Imited) have been obtained at § just and of the Staffordshire Wheel and Axle Company at 1½ premium. Muntz's Metta Company has been sold for 6 dis. The shares of the Sandwell Park Company (Limited) have been obtained at § dis., and of the Staffordshire Wheel and Axle Company at 1½ premium. Muntz's Metta Company and the process of the constanct of the men still remaining out a state of the constanct of the

making ample provision for the men inside the works. A "buzzer" that will be heard for a considerable distance is being fitted up so as to give warning of any attemps at violence on the part of the old hands, which is not considered at all improbable.

REPORT FROM THE NORTH OF ENGLAND.

REPORT FROM THE NORTH OF ENGLAND.

Nov. 15.—The shipments of coal from the north-east ports continues to be on a limited scale. It is all but certain now that the aggregate shipments for the current year will fall much short of those for the previous 12 months. In 1876 upwards of 7,000,000 tons of coal were shipped from the Tyne ports alone, being considerably more than the shipments of any previous year. Throughout the last 10 months foreign shipments from the Tyne compared unfavourably with those of either of the two previous years, and it is highly probable that the year 1876 represented the maximum for some years. This suggests the reflection that Cardiff, which is so rapidly coming to the front as a coal exporting station, may before long come abreast of Newcastle; at any rate, the people of the chief South Wales port are going the right way to work to bring this result about. They are now projecting the very extensive plan of docks, and they are finding for the trade every possible facility of development. A few years ago Cardiff was nowhere near Newcastle in respect of its coal shipments, whether foreign or coastwise. Now, however, its foreign shipments come so near to those of the more northern ports as to justify an expectation that it will ultimately go far beyond them, and this conclusion is still further warranted by the fact that the Welsh coal field has a reserve three times as large as that of the Great Nouthern.

In reference to the Iron Trade there is a positive dearth of news. The demand for pig-iron varies but little from week to week, while prices have maintained for months a remarkably dull level of uniformity. Business was done on Tu-sday at 44s, for No. 1, and 40s, for No. 3, less 1 per cent, and f.o.b Tees. The utmost efforts of the "bears" cannot pull quotations below this standard, although it is no secret that some considerable quantities of iron have changed hands for less morey. Shipments of pig-iron are not on a large scale for foreign requirements, but they keep up to a higher sta

customed to do before. Last year the average was not more than 47 or 48 tons per furnace per day, but at the present time the average is about 55 tons, or rather more, so that the maker has at least the advantage of a larger output in his favour. At the Linthorpe and other works improvements and changes in the mode of working have recently been introduced with the view of securing the fullest yield of which the furnaces are capable. With the favourable weather that has recently prevailed shippers have been pressing forward deliveries of pig-iron, and causing a good deal of activity

at the furnaces.

The finished Iron Trade continues very dull, except in respect The finished fron Trade continues very dull, except in respect of ship-plates, which are being turned out in large quantities. The production of ship-plates in the North of England is now about 200,000 tons per annum, and it is worthy of remark that not only do Cleveland firms supply shipbuilders in their own district, but the bulk of the Clyde firms as well. Prices current are—Shipplates, 6l. 5s. to 6l. 7s. 6d.; sheets, 7l. 15s.; angles, 6l. 2s. 6d.; common bars, 5l. 15s.; and rails, 5l. 15s. per ton, less 2½ per cent. commission, and free on trucks at works. Except on plate orders, the fluished from manufacturers in the Middlesborough district are doing very little. So much indeed is this the case that nine firms have more than 200 puddling furnaces entirely idle.

In mining matters nothing presents itself couleur de rose. On

have more than 200 puddling furnaces entirely idle.

In mining matters nothing presents itself couleur de rose. On
the contrary business is dull almost to stagnation. Few of the
mines in Cleveland are now working full time, and the heavy stocks
of ore that have been accumulated will prevent the revival of
trade from being so soon felt, even when it is an accomplished
fact. Of coal, coke, and ironstone together some 7000 tons less
are now being sent over the North-Eastern system than at this time
last year, and the reduction in the railway receipts for mineral last year, and the reduction in the railway receipts for mineral traffic vary from 1000l. to 4000l. per week.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Nov. 15.—True to time, as predicted by the Americans, a storm of wind and rain arrived in this country in the early part of the week. The damage in this district was great, and was caused mainly by the floods, but to the local ironworks and collieries no material damage appears to have been done. A serious disaster was the falling in of a portion of the Vale of Neath Tunnel, which has been constructed about 25 years, is about two miles and a quarter long, and belongs to the Great Western Railway Company. Fortunately 10 one was injured. This is not the first occasion on which anaccident has occurred in the tunnel. In order to strengthen the work men were employed at the time of the accident to double wall and double arch it. It will be some months before traffic by this route can be resumed. To refer next to the staple trades of the district, there is manifestly an improvement in the iron industry, 90 far as shipments are concerned; and there are some fair orders for railway iron in hand, India being our best customer at the present time. Then, during the week we have had clearances to Sweden and Norway and South Australia, and Brazil again figures on our books. What has been urged, therefore, as to the aimost total collapse of the iron rail trade has not come to pass yet. There appears to be a little more doing in bar-iron, and prices exhibit a change for the better. Pig iron is materially unchanged, but stocks are to some slight extent diminishing. The steelworks are employed at about the average rate. Nov. 15.-True to time, as predicted by the Americans, a storm employed at about the average rate. Tin-Plates are materially

As will be seen by the figures quoted below, foreign orders are As will be seen by the figures quoted below, foreign orders are diminishing, and have made an appreciable difference in the returns of slipments. The steam coal trade is rather quiet, and not quite so much briskness characterises the house coal department. Many of the men are earning but low wages, and the winter promises to be a hard one for many. The patent fuel trade is rather dull; while Cardiff improves its shipments, Swansea shows a falling off. It has previously been stated that notices have been given to terminate contracts in the Aberdare Valley and elsewhere. It is believed that about 600 men at least will be turned off. At a meeting of Mountain Ash colliers they passed a resolution protesting against any restriction of labour under present circumstances. The B'sina colliers have held a meeting to consider the 5 per cent. off wages, which has conters mey passed a resolution protesting against any festriction of labour under present circumstances. The Blaina colliers have held a meeting to consider the 5 per cent. off wages, which the Nant-y-Glo and Blaina Company has refused to restore. A deputation waited upon Mr. Brown, the manager, on Monday last, but he declined to again onen the subject. The colliers available of the subject to again onen the subject. leclined to again open the subject. colliers employed by Messrs. Brogden have held a meeting at Maesteg respecting the notice of a 5 per cent, reduction, and decided to resist it. On the other hand the men engaged by the Powell's Llanwit Company have

other hand the men engaged by the Powell's Llanwit Company have decided to accept a 5 per cent. decrease.

The following returns of iron, coal, and patent fuel may prove of interest to readers of the Journal. The periods compared are last month and the same month of 1876 respectively:—Iron: Newport, 5170 tons against 6602 tons; Cardiff, 8568 tons against 3718 tons; Swansca, 247 tons against 16 tons. The following were the principal shipments of iron and their destination last month:—Cadiz, 1456 tons; Columbo, 1030 tons; Valencia, 535 tons; Wallaroo, 882 tons; Bombay, 4008 tons; Charlottetown, 528; Christiana, 750 tons; Gottenburg, 2537 tons rail. Coal shipments foreign were: Cardiff, 268,629 tons, compared with 308,205 tons; Newport, 44,369 tons, compared with 52,320 tons; and Llanelly, 3769 tons, compared with 4573 tons. Coal coastwise: Cardiff, 70,437 tons, against 70,127 tons; Newport, 67,684 tons, against 73,579 tons; Swansea, 18,134 tons, Newport, 67,684 tons, against 73,579 tons; Swansea, 18,134 tons, against 23,593 tons; and Llanelly, 7310 tons, against 8541 tons. Patent fuel: Cardiff, 12,248 tons, compared with 7053 tons; and Swansea, 9743 tons, compared with 12,276 tons.

Vice-Chancellor Malins has made an order in the Chancery Divi-sion for the compulsory winding-up of the West Swansea Colliery

Company.

Messrs. T. Cordes and Co., proprietors of the Dos Works, Newport, have given notice of a 10 per cent. reduction in wages. This is the first general reduction in wages made since the establishment of these works. The shareholders of the Newport (Old) Dock Company have again no dividend to declare, although the accounts present a more favourable aspect.

REPORT FROM THE FOREST OF DEAN.

Nov. 15.—On several occasions we have adverted to the sufferings among the working population of the Forest, and last week we again remarked upon it, more especially as it affected the western side, and specially round about Parkend. On Wednesday (yesterday) an import int and influential meeting was held at the Speech House relative to the prevailing distress, and to consider and devise means for its alleviation. The Rev. E. Machen, of Eastbach Court, presided and was supported by a good number of acidehomic works. relative to the prevailing distress, and to consider and devise means for its alleviation. The Rev. E. Machen, of Eastbach Court, presided, and was supported by a good number of neighbouring gentlemen, including Sir J. Campbell, Sir Thomas Crowley Boevey, Capt. Dighton, Capt. Brain, Mr. E. Crawshay, Mr. A. Ridler, &c., as well as a number of Episcopal and non Conformist ministers. The meeting was held in the large speech room, which was well silled. The first resolution recognised the existence of the prevailing distress throughout the Forest, but most painfully felt in West Dean. The Rev. Thomas Nicholson, of Yorkley, went most fully into the matter, and in the course of a telling speech he directed the attention to the fact that about 100 works, including iron mines, collieries, steelworks, and Parkend furnaces and timorks in leading iron mines, collieries, steelworks, and Parkend furnaces and timorks in leading promines, collieries, steelworks, and Parkend furnaces and timorks in leading partial employment at least, but the remaining \$000, he believed, were all but starving, and he instanced some cases painfully fillu-traitive of his view, and Sir J. Campbell signified his assent that it was not an overdrawn picture. Mr. Nicholson continued—what had brought about that state of things? He did not like to touch it, but would read an extract from a speech of Mr. Macdonald, in which he connselled the men only to work part time to reduce the output. There was the mischief.

Men of that class, who were evil counsellors, led men into strikes and other evil combinations, and in his opinion they had brought about that state of things. But what could be done to alleviate the distress? He had received from political, denominational, and other friends various sums which would enable him to distinute 400 loaves of bread wee-if for ten weeks, but he hade the idea of charity, and the people wanted not charity, but work. And he thought that the Government should furnish work by constructing much needed roads, &c. Sir Thomas

memorial to be sent to the Lords of the Treasury through the Office of Woods and Forests.

Sir J. Campbell delivered his personal opinions on some points, but said nothing officially. In the course of his remarks he mentioned the gratifying fact that he had put 40 men on to some work, which opportunely was needed to be done just now, and which would last some time. The memorial will be for signature at Coleford, &c., for some little time before it is forwarded. The meeting, notwith-atanding some differences of opinion, was of a friendly kind throughout, and presented a very spectacle of sympathy and humane feeling. Several other gentlemen besides those named took part in the proceedings by delivering addresses, but we have only time and space to furnish the gist of the meeting as bearing on the object which called it together. We hope that the "red tape" of officialism will not strangle the laudable proposal, but that means will be furnished to promptly second the object; but it is right to note that whilst some are very sanguine others are extremely doubtful of success with "my lords."

The trade of the district continues without much variation from what it has been for some time past, sometimes improving a little, and at other times slacken ing again somewhat, but not extensively either way, and this mostly applies to the eastern side.

ROTARY SUPERHEATED STEAM-ENGINE.

The invention of Mr. James Apperley, of Stroud, Gloucestershire, relates to rotary engines in which the steam is superheated during its passages to and through the engines, and the impulsive force of the elastic fluid moving with velocity is utilised. To this end the engine and superheater are combined in one, and consist chiefly of an outer stationary casing supported upon a suitable bed plate or foundation, and an inner revolving drum or cylinder mounted upon an axle carried from the bed plate. The outer casing is composed of two annular or serpentine concentric channels, or chambers, or passages, the inner one being the steam superheating chamber, and the outer one forms a part of the flue for the passage of the heated combustible gases, or it may be the chamber in which they are consumed. The entrance pipe or passages for conducting the steam from the boiler to the superheating chamber is commanded by a rotary or other valve rotated automatically. The inner periphery of the annular steam superheating chamber is formed by a series of partitions arranged tangentially, between which are parallel passages leading to the metal cylinder or drum, which is so mounted as to be capable of free rotation within this outer casing. This metal cy-The invention of Mr. James Apperley, of Stroud, Gloucestershire. leading to the metal cylinder or drum, which is so mounted as to be capable of free rotation within this outer casing. This metal cylinder is provided with a continuous spiral or volute passage, which is composed of a series of alternate enlargements or contractions, triangular or pear-shaped in cross section. The opening or mouth of this passage is at the periphery of the cylinder, and is carried around the cylinder a sufficient number of times (approaching the centre) to obtain the desired result—the expansion or condensation of the steam. The inner or open end of this spiral passage, which is near the centre of the cylinder, commanded by a rotary valve or cock, and may open out into a cooling chamber or condenser, so as to obtain the additional aid of a vacuum. The steam entrance and exit valves are operated automatically by means of cams or eccenexit valves are operated automatically by means of came or eccentrics on the axle of the cylinder or drum, and in any other suitable

In starting the engine the communication between the furnace flue and the concentric heating flue of the engine is to be opened, or when the gases of combustion are burnt therein they are to be first lit, so as to heat the engine and prevent condensation of the steam lit, so as to heat the engine and prevent condensation of the steam on its first admission; the ordinary saturated steam is then to be freely admitted into the annular chamber of the case, and passing by the tangential passages, will enter in at one or more of the ports leading to the spiral steam passages, and in its rush through them to the condenser or open air will impinge in succession on the heads of the triangular enlargements of the passage, and thus impart a rotatory motion to the drum or cylinder by a rapid succession of impulses. When the outer case becomes heated by the passage through it of the combustible gases or the combustion of gases therein, the entrance and exit passages to and from the engine are to be allowed to be acted upon automatically; and the mechanism provided for this purpose is so arranged as to be capable of adjustment, both as to the number of times the values are to be opened during one revolution of the drum, and the duration of time they remain open, so as to obtain the maximum effect due to the expansion of the superheated steam. In some cases it may be desirable to provide several entrances or mouths by which the first of the spiral passages may be fed from the tangential passages of the superheating chamber; one way of attaining this object is to cut narrow grooves chamber; one way of attaining this object is to cut narrow grooves in the periphery of the cylinder of a depth sufficient to enter or cut through some portion of the pockets leading to the first spiral passage. These grooves are to be of such a width as to obtain a wiredrawn action of the steam in its endeavour to enter the said spiral passages, and the frictional action of the steam will be necessarily in the direction of the rotation of the drum.

BICTON CONSOLS SILVER-LEAD MINING COMPANY (LIMITED).

Fall particulars respecting this Mine may be had on application to the Secre MR. WM. WARD, CROSBY HOUSE, BISHOPSGATE, LONDON.

ESSRS, HARLAND AND CO., STOCK AND SHARE DEALERS, 38, GREAT ST. HELEN'S, BISHOPSGATE STREET WITHIN, LONDON, E.C.

WITHIN, BONDON, E.C.

MR. GEORGE BUDGE, STOCK AND SHARE DEALER

4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established

7 years), has SPECIAL BUSINESS in—Dolonath, Carn Brea, Wye Valley,

yan, Grogwinion, West Craven Moor, Great Lexey, Roman Gravels, Chapel House,

Biltami Culliery, Devonport and Tiverton Brewery, Hultafall, Cambrian, Linnwet,

Exchequer, Parys Mountain, Holmbush, Cakennore Colliery, Bodidris, Chicago,

Bedford United, M. mydd Gorddu, Wheal Coates, Wheal Peevor, Prince of Wales,

IX.L., Chontales, Derwent, Great Holway, Improved Wood Pavement, Lisburne,

Mellanear, West Mostyn, and Halcomb Sack.

BPECIAL BUSINESS in Cambrian shares.

LIVINGSTONZ CONSOLS.—Mr. BUGGE is prepared to receive applications for these

Shares, which he believes will advance in price.

TO MINING COMPANIES.

WANTED,—A MINE MANAGER, of large Foreign a STUATION as MANAGER, or INSPECT FOREIGN MINION AS MANAGER, OF COMPO, MANAGER, OF

WANTED,—A CORNISHMAN, at present Resident Manager a large COPPER MINING and SMELTING E 'TABLISHMENT, be OPEN to a RE-ENGAGEMENT in December. Speaks and writes French German, and has some knowledge of Spanish. Unexceptionable references.

Address, "A. F. C. E.," Elisabetha Goldbergban, Oravicsa, Banat, Hungar

WANTED, a SITUATION by a COMPETENT MINING ENGINEER. America preferred. Has had experience both in an Address, "J. C., M.E.," MINING JOURNAL Office, 26, Floet street, E.C.

TO CAPITALISTS, BROKERS, AND OTHERS.

WANTED, a SMALL AMOUNT of CAPITAL to OPEN (1)

been made. The mine is provided with pumping and drawing power. The
ings are within 25 fms. from surface, and the set is surrounded by large and
fitable mines. table mines. Address, "Zeta," care of Messrs. G. Street and Co., 30, Cornhill, E.C.

WANTED, a SECOND-HAND CRUSHER, 2 ft. diameter, wi LEVERS and TUMBLING SHAFT.
Apply to Capt. S. MICHELL, Park Mine, Minera.

MINE SUPERINTENDENT.

THE DIRECTORS of an ENGLISH COMPANY, working Sire Mines on a large scale in Colorado, REQUIRE the SERVICES of a CO. Applications for the appointment, with copies of testimonials, and stating size cutting, to be addressed to "Secretary," MINING JOURNAL Office, 26, First street London, E.C., up to the 23rd instant.

SPAIN.

AN ENGLISH GENTLEMAN, starting about the 22nd insta on a Tour through the Principal Cities and Mining Districts of Spain, when the Would be GLAD to UNDERTAKE any bona fide BCS on COMMISSION. Address, "Comisiouss, 111," Messrs. Deacon's, Leadenhall-street, E.C.

A GENTLEMAN, who holds half of a LEAD SETT in WALE is desirous to DISPOSE OF HALF HIS INTEREST, on advantages excellent. There are three lodes running through the set, and the inter isolated by an add believel. It is situated in the cuttre of a group of rich mines, and the one isolated produces a high price. An inspection requested.

For further particulars, apply to "W. H.," MINING JOURNAL Office, 28, Fig. street, London, E.C.

OMMISSION AGENCY IN ALMERIA.—An English
settled in Almeria is open to REPRESENT ANY HOUSE specially des
to MACHINERY for TREATING LEAD and CALAMINE ORES; as als
BUY these and IRON ONES on commission for export.
Address, "A. C. W.," MINING JOURNAL Office, 28, Fleet street, E.C.

FOR SALE, —A SHARE in an IRON ORE ROYALTY in the best part of the CUMBERLAND DISPRICT.

For particulars apply, by letter, to Messrs. Gill and White, Consulting Engineers, 13, Mosley street, Newcastle-on-Tyne. C. H. WALKER AND CO.,

MINING AGENTS AND ENGINEERS, VALPARAISO AND SAN IAGO, CHILE.

GEO. G. BLACKWELL, CHAPEL STREET, LIVERPOOL. PURCHASER OF

MANGANESE, ARSENIC, FLUOR-SPAR, WOLFRAM, BLENDE, CALL MINE, CARBONATE and SULPHATE OF BARYTES, ANTIMONY CHROME ORE, MAGNESITE, EMERY STONE, PUMICE STONE OCHRES AND UMBERS, CHINA CLAY, LEAD ORE FOR POTTERS TALC, &c.

W. F. LOWE, F.C.S., Associate of the Royal School of Mines, ASSAYER AND ANALYTICAL CHEMIST ASSAYS AND ANALYSES MADE OF ORES, FIRE-CLAYS, LIMESTONES, &c.

ADDRESS, - ASSAY OFFICE, CHESTER.

Mr. J. H. COLLINS, F.G.S. PUBLIC ANALYST for the County of Cornwall and Borough of Penza

NDERTAKES the ANALYSIS of all articles of FOOD, DRINK, DROG INERALS, MANURES, SOLLS, or COMMERCIAL PRODUCTS. And INSPECTION of MINERAL PROPERTIES.

Private Instruction given in Practical Chemistry, Mineralogy, or Geology.

For terms, apply by letter, 57, Lemon-street. Truro.

E. JACKSON,

Associate of the Royal School of Mines,
ANALYST AND ASSAYER.

Assays or Complete Analyses made of Copper, Sliver, Lead, Zine, Tis,
ther Ores.

106, QUEEN VICTORIA STREET, LONDON, E.C.

TALYBONT SILVER-LEAD MINING COMPA (LIMITED). FOR SALE, SIXTEEN fully pand-up SHARES.—Apply to Mr. H. H. Queen-street, Wakefield, Yorkshire.

DIVIDENDS.—ADVANCING STOCKS SECUMENTS, RAILWAY SHARES, BONDS, &c. The sear make large and rapid profits from small outlay. Two or three bought with the certainty of doubling or trebling. Moneyadva STOCKS SECURE INVE ecounts. Particulars of Hume and Co., Crosby Hall Chambers, London, E.C.

STOCKS, SHARES, AND MINING SECURITIES BOYD AND SOLD. Do not invest without consulting PETHERICK AND Sharedealers (Established Twenty Years), who will give reliable informathus saving considerable risk.

OFFICE, -51, THREADNEEDLE STREET, CITY.

ESSRS. J. TAYLOR AND MINING ENGINEERS AND INSPECTORS. 86. LONDON WALL LONDON, E.O., Have Agents in England, Scotland, Wales, and on the Continuation of the Continuati

THE RISE IN TIN SHARES AND INVESTMENTS GENERALLY M. R. JOHN B. REYNOLDS should be consulted as to PRESENT and FUTURE PROSPECTS of the TIN TRADE. Als munications considered as strictly private. Reliable advice given on all is ments. Telegrams promptly attended to.

NORTH CORYMALL, AND NEW TINCROFT.—Mr. REYNOLDS is a Buyer of number of shares herein. Full particulars on application.

REYNOLDS' PROSPECTS AND POLICY OF INVESTOR Forwarded on receipt of Twelve Stamps. See quotation from Reproble on "The War and Materials."

JOHN B. REYNOLDS, Stock and Share Dealer, 70 and 71, Bishopsgate Within, London, E.O.

Bankers: City Bank—Established 20 Years.

M ESSRS. ENDEAN AND CO., STOCK AND DEALERS, 88, GRACECHURCH STREET, LONDON, E.

R . J . S. M E R R ASSAYER AND ANALYTICAL CHEMIST, GWANSEA.

WILLIAM B. COBB. STOCK AND SHARE DEAL 62, CORNHILL, LONDON, E.C. Bankers: The Ailliance Bank (Limited).

MR. W. F. STANLEY, MATHEMATICAL INSTRUMENT OF THE ACTION OF THE SCIENCE AND ART DEPARTMENT, ADMIRALTY, &c.

MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of Price-list poat free.

Engine Diviser to the August of The Trade.

ADDRESS—GREAT TURNSTILE, HOLDORN, LONDOR, W.C.

Nov. 17

E FOLI

MME MINING F

WM. E BLASTIN

ALMERSTO

WORL

MININ d GREAT B tions for SP. X.E., 42, Co

IPS OF TH SETH'S Mounted on classes AL M. Mining Districtions. Price, 1 EW MAP Of the Mines State Mines Mines State Mines Min

877.

nces, ungary. MININ th in Am C.

EN OU turns ha The wor ge and pr

WALE tvantageo rospects se is drain and the o

e, 26, Fle

nglishm ially devot ; as also C.

nsulting 🖍

ERS.

OL,

DE, CALA

UNY ORE.

E STON

MIST

TER.

Geology.

R Zine, Tin, C. COMPA Mr. H. 1

E INV

ES BOU

p co.

ENERALLY.

NVESTORS. Reynolds' Class

Bishopsga

AND SHOON, E.C.

RE DEAL

INSTRUM UNCIL OF I UMENTS of

DON, W.O

Y.

contin

LAYS.

BRISTOL MINING SCHOOL.

Management of the Governors of the Colston Schools Trust, and in connection with the Department of Science and Art.

SESSION 1877-8.

THE FOLLOWING is the COURSE OF LECTURES which the FOLLOWING 18 the COURSE OF LECTURES which the peration of the distinguished practical men, whose names are appended, of the Governors to offer for the Session 1877-8;—
day, 19th November: HANDEL COSSHAM, Esq., Coal Owner—"The ion and Applications of Coal."
17th December: WALUER SAISE, Esq., D.So., Assoc Roy, Sch. Mines, Faginger—"The Continuation of the Coal Measures East and South of iol Coal Field."

Ingineer—"The Continuation of the Coal Measures East and South of stol Coal Field."

Joseph Coal Field.

Joseph Coal F

noon.

By for admission should be made to the Clerk to the Governors, Mersel; but as a very limited number out be accommodated in adstadents of the Mining School, cards can be sent only to Coalowners, and Managers of Engineering and Mining Operations.

Betters, and Managers of Engineering and Mining Operations.

JE SCOTTISH AUSTRALIAN MINING COMPANY
(LIMITED).

Les is hereby givon, that the HALS-YE GRLY GENERAL MEETING of spreadders of the Scottish Australian Mining Company (Limited) will be that the City Terminus Hotel, Cannon-atrest, London, on FRIDAY, the strength and accounts, declare a dividend, and transact the other usual businessand and accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the other usual businessand accounts, declare a dividend, and transact the declare a dividend, and transact the other usual businessand accounts, declared a dividend, and transact the

MIGIBAUD SILVER-LEAD MINING AND SMELTING COMPANY.
BORDINARY ANNUAL GENERAL MEETING of the shareholders of the semploy will take place in Paris, at the offices of the company, No. 18, a calcaudan, on SATURDAY, the 1st day of December next, at Three in the afternoon precisely.

inheated on precisely.

Chiesaddon, on SATURDAY, the last day of December next, at Three pine afternoon precisely.

Chiesaddon, on SATURDAY, the last day of December next, at Three pine afternoon precisely.

Chiesaddon precisely.

MMENS AND CO. (LIMITED), MINING ENGINEERS AND MANUFACTURING CHEMISTS.

CHIEF OFFICE.
ALMERSTON BUILDINGS, BISHOPSGATE STREET, LONDON, E.C. DEPARTMENT.-The Management of Mines undertaken, and Technica MENT.-Ores, Minerals, Acids, Salts, Arsenic, Pigments, ed and dealt in.

WM. W. KENRICK AND CO. CONTRACTORS.

MI BLASTING, SHAFT SINKING, TUNNELLING, MINING, &c.,
WHE DRILLING MACHINERY, HIGH-EXPLOSIVES, AND
ELECTRICITY.—A SPECIALITY.
WORK SOLICITED AT HOME AND ABROAD.

(LONDON OFFICE),

8, VICTORIA CHAMBERS, WESTMINSTER.

HOSKOLD'S MINING ENGINEER'S VALUER.

Just published, in 8vo, price 3ts. 6d. half-bound.

EE ENGINEER'S VALUING ASSISTANT,
1 PRACTICAL TREATISE ON THE VALUATION OF COLLIERIES
AND OTHER WINES.

IFLD. HOSKOLD, F.R.G.S., F.G.S., M. Soc.A., M. Inst. M. E., &c.,
Civil and Mining Engineer.

Bitteductory Note by P. GRAY, F.R.A.S., Hon. Memb. Inst. of Actuaries.

troductory Note by P. Gary, F.R.A.S., Hon. Memb. Inst. of Actuaries.

Take and originality of Mr. Pick. A.S., Hon. Memb. Inst. of Actuaries.

With these tables by his side the mining engineer entrusted with a valutional set as introduction." — Duil naving first taken care to secure as an introduction." — Duil naving first taken care to secure accurate data to work upon, can make is an introduction." — Note that the unit of a possible confidence that the valuation will be reliable and with the utmost possible confidence that the valuation will be reliable and add has met that want in a line one of the could, and has a met that want in a line of the could, and satisfactory. The tables will no doubt attisfactory. The tables will no doubt actisfactory and in portance time to an important extent."

Mining Journal.

We have much pleasure in recommending Mr. Hoskoid's Treatise to all our of the worth of which must consense, and the real nations of a subject of such everyday im portance."—Building News.

London: LONGMANS and Co.

Second Edition. Just published, price 8s. 6d.

EW GUIDE TO THE IRON TRADE

MILL MANAGERS' AND STOCK-TAKERS' ASSISTANT;

1 series of New and Comprehensive Tables, practically arranged to
view the Weight of Iron required to produce Boiler-plates, Sheet-iron,
quare, and Round Bars, as well as Hoop or Strip Iron of any dimenwhich is added a variety of Tables for the convenience of Merchants,
Eassian Table.

Batman's Hill Ironworks, Bradley, near Bilston.

OPINIONS OF THE PRESS.

are plainly laid down, and the information desired can be instantstherefore, "Mining Journal.

have been ordered in Wigan alone, and this is but a tithe of those to
the bould commend itself."—Wigan Ezaminer.

the bould commend itself."—Wigan Ezaminer.

the bould commend itself."—Wigan Ezaminer.

The bound is the subject of underground management."—M. BANEK

there.

THE MINING ATLAS.

Now Ready, No. I. of SPARGO'S MINING ATLAS.
Price 2s. 6d., by post 2s. 7d.
To be completed in Ten Parts or thereabouts.
sof this work, corrected to date, is now being forwarded to subscribers. early copy should apply without delay.

Stand of securing an early copy should apply without delay.

It MINING ATLAS is designed to convey accurate and state information concerning the CHIEF METALLIFEROUS DISTRIBUTED AND AMERICA. SPARGO'S MINING ATLAS SI Maps of Mining Districts and Territories, and sections of the most sulmans for SPARGO'S MINING ATLAS to be addressed to Thomas M.E., 42, Cornhill, London, E.O., where all orders will have prompt Price of the entire Atlas, £1 5s.

MPS OF THE MINES, AND OF UTAH TERRITORY.

SETH'S NEW AND REVISED MAP FOR 1875.—
be 40 by 56 in thes, scale 8 miles to the inch. Handsomely engraved, cosomics, showing the Towns, Settlements, Rivers, Lakes, Railroads,
Konted, Co., throughout the Territory, and all the Government Surveys
(STYRAL MINING MAP OF UTAH, showing twenty-eight of the
bloom of the the thing of t

n.
sind supplied by...
fiveners and Co., 57 and 59, Ludgate Hill, London; er
B. A. M. Froisern, SaltLake City, Utah, U.B.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862 and 1867, and of the ST, JUST AMALGAMATED MINING COMPANY (LIMITED).—
TO BE SOLD, under the direction of the Registrar of the said Court, on Wednesday, the 28th day of November inst., at Twelve o'clock at noon, at the St. Just Amalgamated Mines, in the parish of St. Just in-Penwith, within the said Stannaries, subject to such conditions as shall be then and there produced, the undermentioned

MINING MACHINERY,
belonging to the said company, and now at the said ring, viz.

mentioned

MINING MACHINERY,

belonging to the said company, and now at the said mine, viz.:—
ONE 46 in. cylinder ENGINE, 9 ft. stroke, 7 ft in shaft, with 10 ton BOILER.
ONE 36 in. cylinder ENGINE, 9 ft. stroke, and ONE 10 ton BOILER.
ONE 36 in. cylinder WINDING ENGINE, with cage, and 10 ton BOILER,
and fittings, complete.
For leave to inspect the above, apply to Mr. F. Warwick, the Official Liquidator
of the said company, at No. 26, Bucklersbury, London, or to

HODGE, HOCKIN, AND MARRACK, Truro
(Agents for Alexander Kerly, 14, Great Winchester street, London,
Solicitor for the said Official Liquidator).

Dated Stannaries Court Office, Truro, this 15th of November, 1877.

ROCK-BORING MACHINERY.

THE TORQUAY LOCAL BOARD OF HEALTH having completed extensive FOR SALE.

THE TORQUAY LOCAL BOAKD OF HEALTH having completed extensive Tunnelling through Rock by the aid of Boring Machinery, have the following FOR SALE:—
SIX 2½ in. cylinder IMPROVED PATENT INGERSOLL SELF-FEEDING ROCK. BORING MACHINES.
ONE TRIPOD STAND, with telescope legs and weights.
THREE TUNNEL COLUMNS, each 3 inches in diameter, and 7 feet long. TWO TUNNEL COLUMNS, each 3½ inches in diameter, 6 ft. 6 in. long, With lengthening screws complete.
THREE STEEL CLAMPS for 3½ in. columns, fitted with bolts and nuts. FIVE 50 ft. lengths of INDIA-RUBBER STEAM HOSE, covered with tarred yarn, and fitted with gun metal couplings, complete.
ONE STURGEON'S PATENT HIGH-SPEED AIR COMPRESSOR, with one steam and one sif cylinder, each 6½ inch diameter and 9 inch stroke, mounted on cast iron, air receiver, complete.

SOUTH WALES.

THE NANT-Y-GLO COMPANY are desirous of LETTING the following VERY VALUABLE STEAM COAL COLLIERIES:—
The GRIFFIN PIT, at which new winding machinery has lately been erected at a very large outlay. This pit is situated on the Monmouthshire Railway, and has every appliance for turning out 600 tons of coal per day.
Also, the HENWAIN PIT, capable of turning out from 300 to 400 tons a day. The above COLLIERIES are now in ACTIVE OPERATION, and are working the ELLED BIG YEIN and THREE-QUARTER SEAMS of COAL.
The NANT Y-GLO COMPANY have VARIOUS OPHER COLLIERIES in OPERATION and TRACTS of UNWON MINERALS TO BE LET. Various sinkings around the property of the Ebbw Vale Stee!, Iron, and Coal Company (Limited), Messrs. J. G. and W. Barnes, of Liverpool, the Blaenavon Iron and Steel Company (Limited), and the South Wales Colliery Company (Limited).
Tracks and all other plant may be obtained either by purchase or on simple hire. For particulars, apply to WILLIAM ADAMS, of Cardiff, the Consulting Engineer of the Company, at the offices of the Nant y-Glo Company, 4. Norfolk-street, Manchester; and to Messrs. Colborne and Ward, Solicitors, Newport, Mon.

CARNARVONSHIRE NORTH WALES. IMPORTANT TO CAPITALISTS, QUARRY PROPRIETORS, AND OTHERS.

AND OTHERS.

TENDERS ARE INVITED FOR THE CASTELL CIDWEN SLATE QUARRY, situated near Quellyn Lake, on the road from Carnarvon to Beddgelert, and within a few hundred yards of the Quellyn Station on the Narrow-gange Railway (recently opened).

The vendors have a lease for 50 years, in which is reserved to the lessor a royalty of 1-16th, and a minimum rent of £100 per annum.

The lease comprises an area of 443a. 2n. 7r, with power to pass over adjoining lands the property of the lessor.

The slate beds are rich, and of superior quality.

The workings proved the existence of a most superior vein, the rock having been developed to a considerable depth.

There are also two other veins running paralled to this, which are likely to produce both slab and slates.

The tip is into the lake, which is deep at the point, and is not surpassed by any in Wales.

It was extensively opened out at a large outlay when under the disadvantage of ix miles cartage from a railway, and it was clearly proved that it forms part of he great vein running from the far-famed Penrhyn Quarries through the Liau-eris Qu-rries to the Nantile Vale.

The purchaser of the quarry can have the option of taking the late manager's louse, adjoining the Quellyn Station, for the unexpired term of 49 years, at a cry low rental. A tramway could be made at a trifling cost connecting the quarry with the Narrow-gauge Railway.

Mr. ROBERTS, of the Snowden Range Hotel, will show the premises.

Further particulars may be had on applying to W. LIPSCOMBE, Esq., Beech awn, Heath, Wakefield, to whom all tenders are to be addressed.

TO BE SOLD, BY PRIVATE TREATY, subject to conditions, the UNEXPIRED TERM of the LEASE of all that QUARRY, called

the UNEXPIRED TERM of the LEASE of all that QUARRY, called TREVOR HALL LIME AND FLUXING STONE QUARRY, Near RUABON, together with all the WORKING PLANT and MACHINERY. There is a trainroad connecting the quarry with a siding on the Great-Western Railway. The trainroad also leads to a siding on the Canal. A great outlay was made upon the works by the late owner. This a rare opportunity for a good investment to anyone desirous of pushing the trads. For further particulars apply to Messrs S. Hughes, Glanywern, Glynceirlog, near Llangollen: B. WRIGHT, Mersey View Ion, Hale Bank, near Widnes; EDWARD JONES, Furnace Manager, Acrefair, near Ruabon; or to Messrs. Minshalls and Parry Jones, Llangollen and Oswestry.

Llangollen, 25th August, 1877.

BONA FIDE CAPITALISTS may learn in what MINES to INVEST WITH SAFETY AND PROFIT on application to "Mining Engineer." First-class references given and required.

Ballydehob, Co. Cork, Ireland, Oct. 31.

A DVANTAGEOUS MINING INVESTMENT, not exceeding three-tenths of one of the best and most promising Silver-Lead, Copper, Tin, and Blende Mines in the richest mineral district of Cornwall, in active work, TO BE SOLD under arrangements peculiarly advantageous to purchaser, who will have option of requiring the vendor to purchase at end of two years, with 20 per cent. added—6 per cent. per annum interest on account, payable quarterly, guaranteed until option exercised. Purchaser likely to realise price given four times over within first year.

Address, M. Johnston, 4, Howard-street, Strand.

HYDRAULIC PUMPING ENGINES, TWO, 50 H.P. ENGINES ON SALE-a Bargain. Apply,-SUN FOUNDRY, LEEDS.

TWENTY-FIVE H.P. PORTABLE ENGINE, almost new, FOR SALE OR HIRE, or on hire with option of purchase, on moderate terms.

ENGINES, BOILERS, AND COLLIERY PLANT, of every de-

scription, new and econdhand, always in stock.
J. H. REDDEL AND CO., ENGINEERS, GLASGOW

POR SALE, at NEW PEMBROKE MINE, CORNWALL.-BOILERS. DRAWING ENGINE, and TWO BOILERS.

28 in. DEATH OF THE STATE OF TH Apply to Mr. JOHN POLKINGHORNE, PAR OFFICE, PAR STATION.

FOR SALE, price £3000, VALUABLE RED HEMATITE IRON ORE ROYALTY. The ore is of the highest quality, and has been proved for a distance of a quarter of a mile in a straight line. Formation Limestone, near Coal Meanures. ar Coal Measures. Apply to J. Fletcher Pagen, C.E., F.G.S., St. Austell, Cornwall.

FOR SALE, a 14-horse power PORTABLE STEAM ENGINE, with link motion reversing gear, also gear to wind and pump.

A 25-horse power PORTABLE.

An 18-horse power VERTICAL BTEAM ENGINE, and a 9% in. cylinder VERTICAL ENGINE, and combined winding drum.

A 6-ft. PAN MORTAR MILL, VERTICAL ENGINE, and BOILER.

Apply to— BARROWS AND STEWART, ENGINEERS, BANBURY.

S. T. SHUTTLEWORTH.

PATENTEE OF THE IMPROVED APPARATUS FOR PREVENTING INCRUSTATION IN BOILERS, &c.

MANUFACTURER OF SUPERIOR
GUN METAL STEAM GOCKS, VALVES, BOILER MOUNTINGS,
And CAST IRON STEAM and SAFETY VALVES, with GUN METAL SEATS
ALL ORDERS PROMPTLY EXECUTED.

LONDON OFFICE,—51, BISHOPSGATE STREET WITHIN, E.C.

ALL ORDERS PROMPTLY EXECUTED.

LONDON OFFICE,—51, BISHOPSGATE STREET WITHIN, E.C. VALVES AND STEAM COCKS.

Cast-iron Steam Valve, with Gun Metal Seats, new and improved pattern, (with flanges.)
(Screw Gland.) Gun Metal Screw Gland Steam Cock (black), shell pattern, female ends.
(Pin Gland.) Gun Metal Pin Gland Steam Cock (black), shell pattern, female ends—
(Pin Gland.) Gun Metal Pin Gland Steam Cock (black), shell pattern, female ends—

Prices—¼ in. ¾ in. ¼ in. ¼ in. 1 in. 1¼ in. 1½ in. 2 in.
2s. 8d. 3s. 4d. 4s. 6s. 9s. 6d. 13s. 6d. 2ls. 6d. 32s. each.
(Screw Bottom.) Gun Metal Screw Bottom Steam Cock (black), shell pattern, female ends, or male and female ends—

Prices—¼ in. ½ in. ½ in. ½ in. 1½ in. 1½ in. 1½ in. 2 in.
2s. 3d. 2s. 9d. 3s. 3d. 4s. 6d. 8s. 6d. 12s. 17s. 6d. 28s. each.
(London Pattern.) Gun Metal Steam Cock, London shell pattern, polished bright, male and female ends; the heaviest in the trade—

½ in., 4s. 6d.; ½ in., 7s.; 1 in., 10s.; 1½ in., 15s.; 1½ in., 22s.; 2 in., 36s. each.
Gun Metal Steam Valves, brass or iron wheels; improved, screwed female ends—
½ in. ¾ in. 1 in. 1½ in. 1½ in. 2½ in. 2½; in. 31s. 3¼ in. 4 in.
4s. 6d. 6d. 8s. 6d. 1ls. 6d. 1ls. 2s. 6d. 35s. 48s. 60s. 80s. 120s. each.
The same with Flanges—

¼ in., 7s.; ¾ in., 8s.; 1 in., 12s.; 1½ in., 15s. 6d.; 1½ in., 32s. 3d. each.
Gun Metal Ground Steam Union Joints—

¼ in., ½ in. ½ in. 1 in. 1 in. 1 in. 1 in. 1 in. 2 in.
2s. 6d. 2s. 9d. 3s. 4s. 5s. 6d. 7s. 6d. 10s. 6d. 16s. 6d. each.
Gun Metal Stuffing Box, Expansion Joints for long lengths of Piping—
½ in., 4s.; ½ in., 4s. 6s.; 1 in., 8s.; 1 in., 18s.; 1½ in., 11s.; 1½ in., 14s.; 2¹in., 21s. each.
Gun Metal Steafty Valve, with Lever—
½ in., 6s.; ½ in., 5s.; 1 in., 8s.; 1 in., 1s. 3½ in., 1s.; 2 in., 20s. each.
1½ in. 2 in. 2½ in. 2½ in. 21s. 2½ in. 21s. each.
Gun Metal Steafty Valve, with Lever—

½ in., 6s.; ½ in., 6s.; 1 in., 5s.; 2 in., 35s.; 2 in., 35s. each.
1½ in. 2 in. 2½ in. 2½ in. 25s. 6d. 12s. 6d. 12s. 6d.
12s. 6d. 12s. 6d. 12s. 6d. 12s. 6d. 12s. 6d.
12s. 6d. 12s. 6d. 12s.

34 in., 7s. 6d.; 1 in., 10s. 6d.; 1¾ in., 14s. 6d.; 1½ in., 19s.; 2 in., 33s. each.

GUN METAL WATER GAUGE MOUNTING 3.

Set of Gun Metal Gauge Mountings, ebony handles, ordinary pattern.

½ in glass Person handles, oack nuts, and cleaning screws, nored for ½ in., ½ in., or ½ in.

glass

Set of Gun Metal Gauge Mountings, similar to the above, but lighter, and bored for ½ in. or ½ in. glass

Set of Gun Metal Water Gauge Mountings, similar to the above, but lighter, and bored for ½ in. or ½ in. glass. These are suitable for Agricultural Engines 18s. 9d.

Set of Gun Metal Gauge Mountings, with hollow plugs, upon Needham's principle (suitable for locomotives), bored for ½ in. or ½ in. glass.

Set of "Valve" Gun Metal Gauge Mountings (½ turn to blow off), with back nuts and ebony handles, bored for ½ in. or ½ in. glass.

28s.

BEST GREEN GAUGE GLASS TUBES.

Inches ½ in. ½ in. ¾ in. ¼ in. ¼ in. 1 in. outside diam. long. a d. s. d. s.

Sole Maker of HOW'S PATENT SALINOMETERS and HIDROMETERS for Marine Boilers.

HYDROMETERS in Brass or Glass.

HYDROMETERS for SALINOMETERS and other purposes.

STEAM ENGINE INDICATORS.

HAMMERS, RATCHET BRACES, STOCKS, and DIES for either Whitworth's or Gas Threads.

DUDGEON'S PATENT TUBE EXPANDERS and HYDRAULIC JACKS.

LATHES, DRILLING, PUNCHING, and SHEARING Machines.

PORTABLE and FIXED ENGINES, and all kinds of BOILERS, WATER HEATERS, &c.

LEATHER MACHINE BELLING, HOSE, &c.

GREENE'S and other BELL FASTENINGS, OIL FEEDERS, NEEDLE LUBRICATORS and PISTON RINGS.

BOILER COMPOSITION, COTTON WASTE, and STEAM PACKING, of all kinds.

BUILDER COMPOSITION, COTTON MADE IN A SHAFTING.
WHELLS, AXLES, PULLEYS, and SHAFTING.
WHELLS, BENCH, SWIVEL and PARALLEL, and every kind of Engineering requirement for Snop or Engine Room.
GUN METAL and other CASTINGS made to DRAWINGS to any SPECIFICATION submitted.
SHARP STEWARTS INJECTORS, A. FRIEDMANN'S ditto, GRESHAM and CRAVEN'S ditto, and other Makers.
DONKEY PUMPS, &c.

AGENT FOR EZARD'S PATENT DUPLEX GAS IRONS. Quotations given if required for any quantity of the above articles. Special terms to Merchants, Shippers, and the Trade.

TO COLLIERY AND MINE OWNERS, ENGINEERS, IRONFOUNDERS AND CONTRACTORS, &c.

JAMES AND KNOTT, DARLINGTON.

DARLINGTUN,
Are now in a position to SUPPLY their "SPECIAL" LUBRICATING OIL,
PAINTS, PAINT OILS and 'ARNISHES of all kinds, TALLOW, SPUN
YARNS, GREASE, COTTON WASTE, LEATHER BELTING, INDIARUBBER GOODS and STEAM PACKING, NAILS, BOLTS, RIVETS, VILES, &c.,
from stock, in large or small quantities, on receipt of orders.
Quotations given for new and secondhand machinery or stores, &c., on appli
cation to—

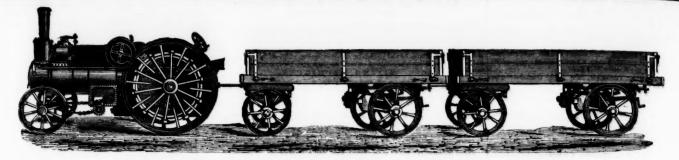
JAMES AND KNOTT, COLLIERY AND ENGINEERS' STORE

MEXICO, NEW MEXICO, ARIZONA, UTAH, NEVADA, AND CALIFORNIA.

F. M. F. CAZIN, INING AND CIVIL ENGINEER, At BERNALLILLO, NEW MEXICO, U.S. OF AMERICA, MINING

Has 24 years' experience in Mining and Smelting, and 10 years' experience in American Business and Law, offers his services at moderate charges for Reporting on Mining and other Property in any of the above-named States or Territories; gives correct, safe, and responsible advice as to securing full titles and possession; and, as to best mode of utilising the property, will assist in settling existing difficulties by compromise, and in disposing of developed mining property when held at real value; offers his assistance for securing undeveloped mining properties at home prices. As to care taken in reporting, reference is made to the Mining Journal Supplement, April 1, 1876, containing report on property of the Maxwell Land Grant and Bailway Company; as to technical standing, to the prominent men of the trade—compare Mining Journal of Aug. 30 and Nov. 31, 1873, and New York Engineer and Mining Journal, Feb. 28, 1874.

CAPTAIN ABSALOM FRANCIS, MINING AGENT, ENGINEER, AND SURVEYOR GOGINAN, ABERYSTWITH.



JOHN FOWLER AND

STEAM PLOUGH WORKS, LEEDS, AND 71, CORNHILL, LONDON, E.C., MAKERS OF ALL KINDS OF

TRACTION ENGINES, ROAD LOCOMOTIVES, TRACTION WAGONS.

STEAM PLOUGHING MACHINERY OF EVERY DESCRIPTION

CHAPLIN'S PATENT PORTABLE STEAM ENGINES & BOILERS.















The ORIGINAL combined Vertical Engines and Boilers, introduced by Mr. CHAPLIN in 1855, specially designed and adapted for

Pumping, Winding, Hoisting, Sawing, Driving Machinery, and for General Contractors' Work, Railway Sidings, Coal Mines, Quarries, Gas Works, &c.

WIMSHURST, HOLLICK, & CO., ENCINEERS, 2, WALBROOK, LONDON, E.C. WORKS:—REGENT'S CANAL DOCK, 602, COMMERCIAL ROAD EAST, LONDON, E. (Near Stepney Station).

Parties are eautioned against using or purchasing Imitations or Infringements of these Patent Manufactures.

H. WATSON,

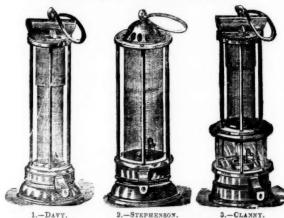
HIGH BRIDGE WORKS,

NEWCASTLE-UPON-TYNE.

MANUFACTURER OF EVERY DESCRIPTION OF Engineering Fittings, Colliery Pump Working Barrels, Boiler Alarm Whistles, and Fire Engines. IRON, COPPER. AND BRASS TUBING.

Gun Metal and Brass Castings of any size. MALLEABLE BRONZE PRICKERS & BLASTING APPLIANCES

SAFETY-LAMPS



N.B.—The whole of these Lamps are made by workmen who have had great experience, and pass through a careful examination before being sent out. I also SUPPLY BRASS, COPPER, and COMPOSITION STEMMERS and PRICKERS, as embodied in the Mines Regulation Act, and made of such lengths best adapted for Mining purposes.

RAILS FOR SALE.

Bridge Section, 10 to 25 lbs. per yard.
Flange Section, 16 to 70 lbs. per yard.

DH Section, 50, 60, to 70 lbs. per yard.
Steel Rails, 30, 36, 54, 58, to 66 lbs. per yard.

NEW PERFECT, NEW DEFECTIVE, AND SECONDHAND IN

STOCK.

PERMANENT WAY RAILS, of all sections, made to order.

ROBERT WRIGHTSON. NEWPORT, MON.



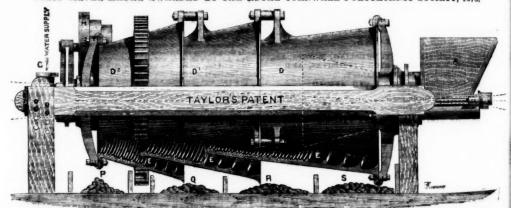
MALLEABLE IRON CASTINGS, Every Description. W. B. MAPPLEBECK, JUN., 21 AND 22, LOVEDAY STREET, BIRMINGHAM.

Just Published, Free Edition.

Guide To Health; or, Advice and Instructions for The Cure of Nervous Debility.—A new Medical Work on the Treatment of Local Debility, Consumption, Loss of Memory, Physical Depression, Indigention, and all diseases resulting from loss of nerve power. Illustrated with cases and testimonials. Sent free for two stamps.—Dr. Smith will, for the benefit of country patients, on receiving a description of their case, send a confidential etter of advice.

tter of advice. Address, Dr. H. Smith, 8, Burton-crescent, London, W. C.

FIRST SILVER MEDAL AWARDED BY THE ROYAL CORNWALL POLYTECHNIC SOCIETY, 1876.



FOR SEPARATING AND SIZING MINERAL AND OTHER SUBSTANCES.

By the aid of this invention any materials, which are of different specific gravity, can be concentrated and sorted mechanic while in the case of ores the fine mineral is brought up with the larger particles instead of being washed into the waste-a important feature of the concentration of the concentr important feature.

This machine uses very little water in proportion to the quantity of material treated, and will be found a most useful and

cient dressing apparatus.

For further particulars, and to see machines at work, apply to the Patentee,

H. E. TAYLOR, 15. Newgate Street, Chester.

\mathbf{M} \mathbf{A} \mathbf{N} \mathbf{C} \mathbf{H} \mathbf{E} \mathbf{S} \mathbf{T} \mathbf{E} \mathbf{R} \mathbf{WORK}

NEAR VICTORIA STATION, MANCHESTER



LEAD AND COPPER MINES. Jigger Bottoms and Cylinder Covers woven ANY WIDTH, in Iron, Steel, Brass, or Copper EXTRA STRONG PERFORATED ZINC AND COPPER RIDDLES AND SIEVES.

Shipping Orders Executed with the Greatest Disputch.





SAFETY FUSE FIRE TO THE

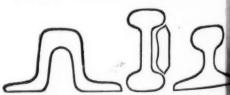
OHARGE IN SECTION AND ALL EXHIBITION OF 1881; at the "INTERNATIONAL EXHIBITION" of 1882 and 1874, in London; at the "INTERNATIONAL EXHIBITION" of 1882 and 1874, in London; at the "IMPERIAL EXPOSITION," in Dublin, 1885; at the "UNIVERSAL EXPOSITION," in Publin, 1885; at the "UNIVERSAL EXPOSITION," in Faris, 1887; at the "GREAT INDUSTRIAL EXHIBITION," at Altona, in 1895: TWO MEDALS at the "UNIVERSAL EXHIBITION," vienna, in 1873; and at the "EXPOSICION NACIONAL ARGENTINA," Cordova, South America, 1872.



DICK FORD, SMITH AND CO., of TUCKINGMILL, CORNWALL; ADELPHI BANK CHAMBERS, SOUTH JOHN STREET, LIVER-POOL; and 85, GRACECHURCH-STREET, LONDON, E.C., MANUFACTURERS AND ORIGINAL PATENTE ES OF BAFETY-FUSE, having been in

formed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following amnouncement:— EVERY COIL of FUSE MANUFACTURED by them has TWO BEPARATE HREADS PASSING THROUGH THE GOLUMN of GUNFOWDER, and BICK-FORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

JOHN BEATSON, DERBY



TRON AND STEEL RAILS, of all sections, from 10 to 52

POINTS AND CROSSINGS, FISH PLATES, BOLTS, NUTS, CE AND SPIKES. LOCOMOTIVE ENGINES AND MACHINES MALLEABLE AND PIG-IRON OF ALL KIND Delivered at all Ports and Railway Stations in Great Britain. A SECONDHAND SIX-WHEELED TANK LOCOMOTIVE FOR

the MO Hasting in BLOCKS of

ITS SA is GIANT CREASE C PROM TA For infor

Londo

is perfect. using osive, a

TO

TH

THE Results of lt saves lab

arine pu

Agents: Di

TH

No V ock Bo

For letter of

Sole

COLE

THE

E

PU

BORLAS

LC

187

lway

RBY

MACHINE

LL KIND

reat Britain.

NOBEL'S DYNAMITE

the MOST ECONOMICAL and POWERFUL EXPLOSIVE for every kind of MINING and QUARRYING OPERATIONS; for be MOST ECONOMICAL and FOWERFUL EAFLUSIVE for every kind of MINING and QUARRYING OPERATIONS; for splitting in hard or soft, wet or dry ROCKS; for clearing land of TREE ROOTS and BOULDER STONES; for rending massive METAL; for SUBAQUEOUS and TORPEDO purposes from recovering or clearing away of WRECKS, &c. ITS SAFETY is evidenced by the total ABSENCE OF ACCIDENTS in transit and storage; it is insensible to heavy shocks are powerful recovering of the storage. ITS SAF DOWER being only fully developed when fired with a powerful percussion detonator, and hence its great safety.

Is a SUBSTITUTE FOR GUNPOWDER its advantages are the GREAT SAVING OF LABOUR, rapidity and IN-

AS SOURCE OF WORK done, FEWER and smaller BORE-HOLES required, greater depth blasted, safety in use NO DANGER REASE OF TAMPING, absence of smoke, unaffected by damp, &c.

london & Export Office, 85, GRACECHURCH STREET, LONDON, E.C.

perfectly uninflammable and insensible to the heaviest blows. It can only be fired in a bore-hole wising a special primer and detonator. Its strength is superior, weight for weight, to every known exgive, and it gives off no injurious taste or fumes.

Sold in cartridges ready for use in wet or dry ground at 1s. 6d. per lb. PRIMERS AND DETONATORS SOLD SEPARATELY.

For further information apply to-

THE PATENT SAFETY GUN COTTON COMPANY, LIMITED, STOWMARKET

SOLE MANUFACTURERS OF ABEL'S GUN COTTON. LONDON EXPORT OFFICE, 2, NEW BROAD STREET.

TONITE, OR COTTON POWDER. THE SAFEST, STRONGEST, AND CHEAPEST OF ALL EXPLOSIVES.

mended to MINERS, PIT SINKERS, QUARRYMEN, and CONTRACTORS as the MOST EFFICIENT and ECONOMICAL

Recommended to statistically the statistical specific particles and the statistical specific particles and the statistical specific particles and the statistical experience show a saving of from 15 to 20 per cent. over the strongest explosives prejously in use. It saves labour in drilling holes, as a less number of holes are needed.

It does not require thawing, but is ready for use at all temperatures and in all climates. It can also be advantageously used in breaking up boulders, extracting stumps, removing wrecks, exploding torpedes, and for glazzine purposes in general, as well as for signal lights and fog signals for ships.

OFFICES: 23, QUEEN ANNE'S GATE, LONDON, S.W. WORKS: FAVERSHAM, KENT.

igents: DINEEN, SON, and Co., Leeds; JOHN RUSSELL, Whitehaven; R. J. CUNNACK, Helston, Cornwall; J. and W. SMITH, Chapel-en-le-Frith; W. VEITCH, Jedburgh, N.B.

DARLINGTON ROCK THE BORER.

No VALVE—BLOW obtained by the movement of the PISTON.

IN USE IN FRANCE, GERMANY, SPAIN, AND ELSEWHERE.

ock Borers, Air Compressors, and Electric Blasting Apparatus. Sole Agents and Manufacturers for France.—The Blanzy Mining Company,

WHERE BORERS MAY BE SEEN IN OPERATION.

for letter of introduction, particulars, &c.. apply to-

JOHN DARLINGTON, COLEMAN STREET BUILDINGS, MOORGATE STREET, LONDON.

THE TUCKINGMILL FOUNDRY COMPANY (TUCKINGMILL FOUNDRY AND ROSEWORTHY HAMMER MILLS),

CAMBORNE, CORNWALL, Engineers, Iron and Brass Founders, &c.,

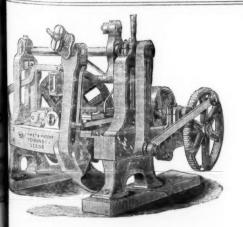
MAKERS OF EVERY DESCRIPTION OF MINING MACHINERY, SHOVELS, GEARWORK, PUMPING. WINDING, STAMPING ENGINES. AND

ALSO OF STONE BLAKE'S BREAKERS.

SOLE MAKERS OF BORLASE'S PATENT ORE-DRESSING MACHINES AND PULVERISERS.

ILLUSTRATED CATALOGUES POST FREE ON APPLICATION.

LONDON OFFICE: 85, GRACECHURCH STREET, E.C.



E M M E T'S

A1 PATENT BRICK MACHINE

Massive; durable; cheap; takes little power, and gives PERFECT SATISFACTION.

This is the ONLY Machine which presses the Brick equally on BOTH sides, each plunger entering the mould plate § in., and turning out 12,000 SQUARE, SOLID, PRESSED Bricks per day, READY AT ONCE FOR THE KILN.

SOLE MAKERS--

YEADON AND CO.,

CROWN POINT FOUNDRY, LEEDS, Makers of EVERY DESCRIPTION of Colliery and Brick Yard Plant.

LONDON AGENTS—
HAUGHTON AND CO., No. 122, CANNON STREET, E.C.
CONTINENTAL AGENTS—
PLAMBECK AND DARKIN, 171, QUEEN VICTORIA ST., E.C.

"Kainotomon" Rock Drill

BRITISH, PRUSSIAN, & SAXON GOVERNMENTS.

all Air-Compressors,



T. A. WARRINGTON. 30, King-street, Cheapside, LONDON E.C.

PHOSPHOR BRONZE



COMPANY (LIMITED).

COMPANY (LIMITED).

COMPANY (LIMITED).

LONDON.

.. £12(per ton.

140 No. XI., special phosphor-bronze bearing metal, wearing five times as long as gun metal

The prices of castings vary according to the pattern, the quantity required, and the alloy used.

WIRE ROPES, TUBES OF ALL DESCRIPTIONS, &c.

Increased Value of Water-Power.

MAC ADAM'S VARIABLE TURBINE.

This wheel (which is now largely in use in England, Bootland, and Ireland) is the only one yet invented which gives proportionate power from both large and small quantities of water. It can be made for using a large winter supply, and yet work with equal efficiency through all variations of quantity down to a fitth, or even less if required. It is easily coupled to a steam-engine, and, in this way always assists it by whatever amount of power the water is capable of giving, and, therefore, saves so much fuel.

This Turbine is applicable to all heights of fall. It works immersed in the tailwater, so that no part of the fall is lost, and the motion of the wheel is not affected by floods or back-water.

References to places where it is at work will be given on application to—

MAC ADAM BROTHERS AND CO., BELFAST.

CRAVEN AND SPEEDING BROS.,

WIRE AND HEMP ROPES COLLIERIES, RAILWAYS AND SHIPPING, &c,

COLLIERIES, RAILWAYS AND SHIPPING, &c.,
Charcoal and Steel Wire Ropes (Flat and Round), of best selected Charcoal and Steel Wire.
Guide Rods.
Galvanised Wire Signal Cord.
Galvanised and Plain Strand for Fencing.
Galvanised Wire Rope for Ships' Rigging.
Chains, Wire Rope Pulleys, Brattice Cloth, &c., &c.
Hemp Crab Ropes, of best selected Petersburg and Italian Hemp
Ditto Flat Ropes ditto ditto
Ditto Cordage ditto ditto
Manilla Rope, White and Tarred.
Flax Spun Yarn and Dressed Flax, for Packing.
Brown and White Spun Yarn.
Fine Dressed Petersburg and Italian Hemp, &c., &c.
Ships Rigging fitted to order. Estimates and special quotations
supplied on application to
CDAVEN & SPEEDING RROS.

CRAVEN & SPEEDING BROS., Wear Hemp and Wire Rope Works,

Now ready, price 3s., by post 3s. 3d., Sixth Edition; Twentieth Thousand Copies much improved, and enlarged to nearly 200 pages.

much improved, and enlarged to nearly 200 pages.

FOPTON'S CONVERSATIONS ON MINES, between Father and Son. The additions to the work are near 80 pages of useful information, principally questions and answers, with a view to assist applicants intending to pass an examination as mine managers, together with tables, rules of measurement, and other information on the moving and propelling power of vanitation, a subject which has caused so much controversy.

The following few testimonials, out of hundreds in Mr. Hopton's possession, speak to the value of the work:

"The book cannot fail to be well received by all connected with collieries."

Mining Journal

ining Journal
"Its contents are really valuable to the miners of this country."—Miners Con-

"Such a work, well understood by miners, would do more to prevent colliery accidents than an army of inspectors."—Colliery Guardian. London: MINING JOURNAL Office, 26, Fleet-street; and to be had of all book-

THE NEWCASTLE DAILY CHRONICLE
CESTABLISHED 1764.)

THE DAILY CHRONICLE AND MORTHERN COUNTIES AD RATISE
Offices, Westgase-road, Mewcastle-upon-Tyne; 50, Howard street forth
Skields; 195 High-street, Sunderland.

No.

stear

For I

HUSB. SECO

STEAM STEAM Turious NININ

IRON Hayd

STAN

BENI

LASTIN

LEYNE'

Bickform manuf

Me Liste an

MODON O

THE MINING SHARE LIST.

| BRITISH DIVIDEND MINES. | 1 |
|---|--|
| Shares | 11 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 |
| 300 W. Chiverton, I, Perranzabuloet 12 10 0 14½ 14 15 55 0 0 0 10 0Jan. 1877 1738 West Poidice, St. Day 10 0 0 13 11 13 19 00 4 0July 1878 1812 West Tolgus, c, Redruth 95 10 0 71 68 70 23 15 0 1 10 0Oct. 1872 12000 West WyeValley, I, Montgoin 3 0 0 3½ 3 3½ cd. 0 9 00 3 0May 1872 12000 West WyeValley, I, Montgoin 3 0 0 3½ 3 3½ cd. 0 9 00 3 0May 1872 1204 Wh. Eliza Consols I, St. Austell 18 0 0 15 0 1872 1204 Wheal Airty, I, St. Agnes 5 4 6 2 2½ 2½ 11 19 6 2 0 0 10 10 0 1875 12090 Wh. Newton, a, c, s, t, Calistock 10 0 5½ 55½ 0 4 6 0 4 0 10 0 1875 12090 Wheal Prussia, I, Redruth 2 0 0 7 6½ 7 0 4 0 0 1 0 Aug. 1872 12090 Wheal Prussia, I, Redruth 2 0 0 7 6½ 7 5 29 0 0 2 3 Mar. 1877 12090 Wyeklow c, suit, i, Wicklow 2 10 0 - 6½ 7 52 9 0 0 2 8 Mar. 1872 12090 Wye Valley, I, Montgomery 3 0 0 3 2½ 3½ 3½ 0 10 6 0 4 6 0 4 2 8 Mar. 1872 | 100 64 56 25 25 120 120 12 250 |
| FOREIGN DIVIDEND MINES 355.0 Alamillos, t, Spain* 2 0 0 0 2 1 1/2 1/4 1/4 1 18 3 0 1 0 Oct. 1877 20000 Alamillos, t, Spain* 1 0 0 3/4 1/4 0 6 3 0 1 0 May 1872 20000 Australian, c, South Australiat | 600 1500 6420 6420 6420 6420 6420 6420 6420 64 |
| NON-DIVIDEND FOREIGN MINES | 000 5000 5000 5000 5000 5000 5000 5000 |
| FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS. Closing Prices. 71 73 73 74 74 74 74 74 74 | 2635 5000 5179 3-00 3000 2100 1098 480 |

| | NON-DIVIDEND FOREIG | NE | MI | NE | 3. | | | |
|----------|--|------|------|-------|--------|------------------|------------|-----|
| Shares | Mines. | F | aid. | 1 | gat Da | | | |
| 5000 | Anguilla Phosphate, West Indies (4000 issued) | 20 | 0.0 | - | | Cios. P | r. Last Ca | 44. |
| | | | | *** | | | Fully | pd. |
| | | | 0 0 | *** | 0 | 2 3 | Fully | pd |
| | | | 0.0 | *** | | | Fully | pd |
| | | | 0 0 | 150 | 314 | 3 31/4 | Fully | pd |
| | | | 0 0 | < 0.0 | 36 | 1/4 3/9 | Fully | pd. |
| | | | 0.0 | 14.0 | | 214 3 | Fully | pd. |
| | | | 0 0 | ** | 3% | 5/3 7/8 | Fully | pd. |
| | | 1 | 0 0 | 10.0 | | | Dec. 1 | 871 |
| | | | 0 0 | 100 | 1/2 | X 1/4 | Fully | pd. |
| 8000 | Hornschos, s.i, Spain | 10 | 0 0 | *** | | | Fully | pd. |
| | | | 0.0 | 188 | 13 | 12 13 | Fully | nd. |
| 12000 | Hunter Consolidated, s-l, Utah | a | 0 0 | *** | | 5% 6 | Fully | pd. |
| 2,000 | Imperial Brazilian Colherica, Brazil* | 6 | 0 0 | *** | 6 | 51/2 6 | Fully | pd. |
| 00000 | I. L., g, s, California | 1 | 0 0 | ×.00 | | | Fully | pd. |
| 50000 | Javali, g, Nicaragua* | 9 | 0 0 | *** | 38 | 1/8 3/8 | Fully | pd. |
| 9500 | La Manaha / Nont | | 0 0 | *** | 1/2 | 36 1/4 | Fully | od. |
| 12000 | La Manche, I, Newfoundland | 10 | 0 0 | *** | | | Fully | |
| 75,000 | Lanestosa, ' (, z, Viscaya, Spain (£2 shares) | 1 | 15 0 | *** | | | Mar. 18 | on. |
| 40000 | Malabar, g, Colombia 67165 issued) | 1 | 0 0 | | 36 | 1/8 1/4 | Fully | 570 |
| 12000 | Menzenberg c Honnet Commerce, fully paid) | 1 | 0 0 | *** | 34 | 14 1/4 | Fully | od. |
| 4588 | Menzenberg, c, Honnef, Germany | 8 | 5 0 | | | 14 /3 | Fully | MI. |
| 8:000 | New Onehrada & Vancouries | 5 | 0 0 | *** | | | Nov. 18 | M |
| 23000 | New Zealand Kapanga, g, Coromandel* | 5 | 00 | | 21/2 | 216 235 | Fully p | |
| 8000 | Oregon * a Oregon I's | 5 | 0 0 | | 11/4 | 14 14 | Fully p | |
| 5 1000 | Panulcillo, c, Chili* (£50000 debentures) | 4 | 0 0 | *** | | 4 41/ | Fully D | HI. |
| 81100 | Pestarens United, g, Italy*1 Providencia and New Rossardo a Maria | 4 | 0 0 | *** | 21/2 | 11/2 | Bully p | |
| 50000 | Providencia and New Rosario, s, Mexico* | 8 | 0 0 | *** | 36 | 3/4 3/4 | Fully p | d. |
| | Di C-1 | 1 | 0 0 | *** | | 70 | Fully p | d' |
| 0 000 | Rica, g, Colombia* (40000 issued) | 1 | 0.0 | *** | 3/4 | ** ** | - | |
| 1,151, | 800 Rio linto, c, Huelva, Spain Rossa Grande, g, Brazilat (61 | Rive | ock. | *** | | 1/4 1/4 53 55 | Fully p | d. |
| 4 0 XXXX | Rossa Grande, g, Brazil'† (£1 shares) | 0 | 19 0 | | 57 | | Fully p | d. |
| 35000 | Russia Copper, Orenburg and Ufa*† | 10 | 0.0 | *** | 214 1 | 1/8 | July 18 | 72 |
| 10,000 | San Pedro, c, Chilis | 2 | 0 0 | | 1/2 | 74 24 | Fully p | ei. |
| SUCKED 1 | Tecome e Timbe | 1 | 0 0 | *** | | 1/8 3/8 | Fully p | d. |
| 20000 5 | Thornhill Reef a Australian | 10 | 0 0 | | 1/2 | ¥ ¼ | Fully p | |
| 48174 | United Mexican & Mariantel | 1 | 0 0 | | - /2 | 74 /2 | Fully p | CL. |
| 14000 1 | Utah c. t. Utah? | 85 | 15 3 | | 2 | 11/4 2 | Fully p | |
| 7.5000 | Utan, g, 4-1, Utan Yorke Peninsula, c, South Australia. | 5 | 0 0 | | | - /2 4 | May 18 | 10 |
| | Yorke Peninsula, c, South Australia Preference | | | | | 3/4 3/6 | Fully p | d. |
| ***** | The state of the s | | | | 20 00 | 10 76 | EUIIV D | ci. |

FOREIGN AND MISCELLANEOUS STOCKS

| Argentine, 1868, 5 per cent | Char | - n - |
|--|---|---------------------------|
| Brazilian, 1865, 5 per cent. 98 95 Chilian, 1866, 7 per cent. 102 104 City of Providence 5 p. c. | Do., 5 per cent., 2d issue Do., 6 per cent., 3d issue Do., 1872, 4th issue | 65 70 52 57 50 55 |
| Exyptian, 5 per east pref. 64% 55 Do., unified debt, scrip 32% 33% Do., 7 per cent., 7 M.L. 67 69 Do., 5 per cent., 8 M.L. 43 44 | Do., 1873, 5th issue Peruvian, 1870, 6 per cent. Do., 1872, 5 per cent. Russian, 5½ per cent. L. Mort Spanish, Quicksilver Mort., 5 p. ct | 46 51 12½ 13 11 11½ |
| 201, 1 per seat., E.E.u | United States Mort., 6 per cent | 95 97 97 99 |

| NON-DIVIDEND MINES. | |
|---|-------|
| Stares. Mines. Pard. Last wk. Clo | 8. |
| 20 Aberystwith, 1-1, Cardigan 5 0 0 | 00 |
| | 1 |
| 50000 Ballycummisk,* c, Schull 200 12000 Bedford Unit,* c, Tavist. (1/.]liab.) 36 1/2000 Bedscone.* c, Devon (27,000 fy. pd.) 1 0 0 15000 Blan United & College | 38 |
| 15000 Blaen United,* s-l, Cardigan | ** |
| 200 Botallack, t, c, St. Just 1 | 74 |
| · | 1 |
| 3348 Cargoll, s-l, Newlyn | 3 |
| 10000 Caron, <i>l</i> , Cardigan [*] | 15 |
| 128 Clementina, l, Llanrwst | 34 |
| 20000 Cwm Dwyfor, c, s-l, Carnarvonsh 0 16 3 — 65 10 Cwm Lanarch, s-l, Carnarvon 2 0 0 214 | × |
| 512 D'Eresby Mountain, l, bl, Llanrwst 20 0 0 15 15 | 20 |
| 512 D'Eresby Mountain, I, bl, Llanrwst. 20 0 0 15 15 16000 Denbignshire Consolidated, i* 3 0 0 1½ 11 12000 Derwent,* I, Durham 4 0 0 2 1½ 10000 Dubby Syke, I, Durham* 0 12 6 ½ ½ | 13 |
| 6144 East Caradon, c, St. Cleer; | 34 |
| | |
| 18000 Sast Van Lisinidices* | 4 |
| 3950 Gawton c Taylatock 4 5 4 24 24 | 8 |
| 4 5 0 1 74 | 1 |
| 100000 Gold, g, Merionethshire 1 0 0. 20000 Goreu, s.l., Carmarthen 1 0 0 1½ 1½ 1 20000 Gt. E. Foxdale, l, I. of Man (ll. sh) 0 18 0 — | |
| 9500 Great Pant-y-Pydew, I, Holywell 2 0 0 51 5 51 | 6 |
| | |
| 5000 Hush Eisteddfod Minera, * 1 | |
| 200 Islay, * l, Scotland | |
| Ditto, preference | |
| 2 00 Ditto, 10 per cent, pref., 1/, each 0 10 0 11/4 7/4 11/4 | |
| 5000 Llanchaider, I, Montgomery 2 0 0 | |
| 5000 Liwyn Teify, * s l, Cardigan | |
| 6100 Ditto 1 15 0 2 11/2 | 6 |
| 5000 Nont of D | 1/2 |
| 4525 New Bronfloyd * Cardigan (5/ ah.) 8 10 0 | |
| 0000 New East Foxdale, s-l, Isle of Man. 0 15 0 | |
| 9000 New Fowey Consols, f, 8t. Blazey* 3 0 0 2 1½ 2 (492 New Hendra, f, Breage 3 9 0 2 ½ 1 (2000 New South Merilyn, f, Filint* 2 10 0 1 ½ 1 | |
| 10 | |
| 000 North Levant, t, c, St. Just! | |
| North Wheal Towan, t, c, Illogan 19 6 1500 Old Tineroft, c, t, Lelant 4 0 0 4 3 4 400 Oola Hills, * s-t, Limerick | |
| 400 Oola Hills, * s-l, Limerick 5 0 0 000 Pandora *! Carnaryon 2 0 0 1½ ½ 1½ | |
| 000 Panty Mwyn, *l, Mold (8791 iss.) 2 0 0 2 923 Parys Mountain, *c, Angiessa 3 0 0. 5/4 3/4 5/4 000 Pate ev Bridge. /, Vorkshire 5 0 0. 2/4 2/4 2/4 000 Perkins Beach, l, Shropshire 1 0 0. 1/4 1 1/4 000 Pivnimman, l, Lindides* | |
| 000 Pate av Rridge, /, Vorkshire 5 0 0. 2% 2% 2% 2% 000 Perkins Beacht, /, Shropshire 1 0 0. 1% 1 1% 000 Piyulimmon, /, Llanidloes* 2 0 0. 3 648 Polrose, f, Breage 21 0 0. 3 | |
| 200 Oil Allis, 's.', Limerick 5 0 0 | |
| 000 Rookhope, l, Durham* | |
| 000) Silvercross, c, t, Marazion 1 0 0 1 4 14 | |
| 100 South Darren, i, Cardigan* 110 0. 114 114 | |
| 100 So. Molton Cons., s.l. No. Devon 0 20 1 34 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | |
| 100 South Tolearne, ', c, Camborne | |
| 100 St. Patrick, I, Halkin, Holywell 1 0 0 11/6 1 11/6 | 1 |
| 000 Sunnyside, * i, Durham 2 0 0 2½ 2 2½ 000 Talybont, s.i, Cardiganshire 1 0 0 1½ 1 1½ | 1 |
| 00 Teign Valley, t, barr, Bridford 100. 76 % % 600 Teign Valley, t, barr, Bridford 100. 76 % % 76 | 1 |
| 00 Tolgus Consols, *c, Redruth | |
| 00 Treleigh Wood, t, Redruth 6 1 0. 78 32 32 32 32 32 32 32 32 32 32 32 32 32 | |
| 00 Tyn-y-Fron,* i, Cardigan | |
| 00 Van Consols, I. Lianidlose* 2 10 0 14 34 15 00 Vaughan*, c., Cardiganshire 10 0 0 1 34 15 00 West Assheton, c. Carnarvon 1 0 0 1 11 | |
| 00 West Assheton, l, Carnarvon | |
| 00 W Craven Moor, I, Pateley Bridge". 10 0 0 1110 1014 | |
| 10 West Goginan, "Cardiganshire | 100 |
| 10 West Milwr, 1-1, Flint 1 0 0 3 2 10 West of England Granite Company. 2 0 0 3 2 10 West Pateiey Bridge, 1, Yorkshire. 1 0 0 2 114, 244 10 West Roskear 1 1-1, bl. c, Camborne. 2 0 0 174, 15 174 10 West Tankerville 2, Salon 2 0 0 174, 15 174 | 000 |
| 10 West Roskear. * r. i, bl. c, Camborne. 2 0 0 17½ 15 17½ 10 West Tanker: ille. * i, Salop 3 0 0 2 | 8 |
| 10 West Tr-savean.* c, t, Gwennap | 1 |
| 10 West Goginan, "Cardiganshire 2 0 0 24 24 25 | 88 |
| 5 Wheal Comfort, c, Gwennap 1 5 0 5 445 5 0 Wheal Crebor, c, Tayistock 4 1 0 2 116 2 Wheal Grenville, c, Oamborne* 2 18 6 4 3 2 12 | 88 88 |
| 0 Wheal Peever, t, Redruth 7110. 6 66% | |
| 0 Wheal Pescor, f. Redruth 7 11 0 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | 8 |
| | 8 |

b, blende; c'. coal; c, copper; g, gold; l, lead; s, silver; sl, slate;
s-l, silver lead; l, tin; z, zinc.
Limited Liability Companies; † quoted on the Stock Exchange;
I have paid dividends.

MPANIES.

| IRON AND COAL COMPANIES, |
|--|
| Shares. Company. COMPANIES. |
| 15 Albion Steel and Wire Co. [L.] |
| 100 Ashbury Co. [L.] 14 0 0 5 |
| 10 Bagnail, John, and Sons [L.] 90 0 0 1d |
| 10 Benhar Coal Co. [L.] 10 0 0 7 |
| 50 Bilbao Iron Ore Co. (L.) 10 0 0 0 11/10 Bilson & Crump Meadow Coll. Co. [L.] 0 0 0 0 11/10 4 Bilson & Crump Meadow Coll. Co. [L.] 11 0 0 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 0 11/10 0 11/10 0 0 11/1 |
| Blaen Cwmbach Coal Co. [L.] 10 0 0 19 |
| 50 Biaenavon Iron and Steel Co. [L.] 60 0 0 100 Bolckow, Yaughan, and Co. [L.] 80 0 0 50 Bowling I |
| 50 Bowling Iron Oo. [L.] 50 0 0 3½ 50 Britannia Ironworks [L.] 50 0 0 3½ 60 Brown B 25 0 0 0 3½ |
| 50 Brown, Bailey, and Dixon [L.] 25 0 0 |
| 5 Cakemore Colliery Co. [L.] |
| |
| 20 Cannock and Huntington Coal [L.] 80 0 0 7 10 Cardiff & Swansea St. Coal Co. [L.] 6 0 0 2 |
| 10 Cardigan Steel and Wire Co. [L.]. 9 0 0 2 10 Central Swedish Iron and I 810 0 1 |
| 10 Central Swedish Iron and Steel [L.]. 8 10 0 1 5 Chapel House Colliery |
| 50 Charlton Iron Co. [L.] 50 0 0 1 2 1 Chillington Iron Co. [L.] 50 0 0 1 2 |
| 10 Chillington Iron Co. [L.] |
| 1 Clee Hill Colliery Co. [L.] |
| 10 Consett Iron Co. [L.] 1 0 0 7 1 Consett Spanish Ore [L.] 7 10 0. |
| |
| 20 Darlington Iron Co. [L.] 40 0 0 32 60 Davy Brothers [L.] 12 10 0 32 5 Davy Brothers [L.] 29 10 0 12 |
| 5 Diamond Fuel Co. [L.] 22 10 0 12 5 0 0 5 100 100 200 100 200 200 200 200 200 200 200 |
| 100 Fox, Samuel, and Co. [L.] 29 0 0 20 10 General Mining Ass. [L.] 80 0 0 20 |
| 10 General Mining Ass. [L.] (£1 returned) 9 0 0 26 20 Great Western Coal Co. [L.] |
| Gwyngwillim Colliery Co. [L.] 17 00 |
| 16 Hopkins, Gilkes, and Co. [L.] 200 200 10 Knowles, Andrew, and Sons [L.] 1700 73/ |
| 10 Llay Hall Coal, Iron, & Firebrick [L.] 10 0 14 |
| Littledean Woodside Coll. Co. [L.]. 10 0 0 14 50 Litynvi, Ogmore, & Tondu Co. [L.] 5 0 0 2 |
| 10 Lydney and Wigpool Iron Ore [L.] 80 00 7 |
| 6 Mersey Steel and Iron Co. [L.] |
| Midland Iron Co. [L.] |
| Mold Argoed Colliery Co. [L.] 5 00 4 d. 10 Monkland Iron and Coal Co. [L.] 10 0 3 |
| 4 Mwyndy Iron Ore [L.] 10 0 0 7½ |
| Nant-y-Glo and Blaina (8 p.c. pref.) 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |
| 20 New Shariston Collieries [L.] Pref, 20 00 1 10 Newport Abercarb Coal Co. [L.] 10 00 17 |
| 10 Northmptn. Coal, Iron & Wagon [L.] 8 004 |
| Northingth. Coal, Iron & Wagon [L.] 8 0 0 Northfield Iron Co. [L.] 8 0 0 Norton Green Coal Co. [L.] 8 0 0 |
| 30 Palman's Object of the second |
| |
| 20 Patent Shaft and Axietree [L.] |
| 50 Phoenix Bessemer Co 6] |
| 10 Dishards 1 C 00 0 0 0 22 |
| 100 G. adams B. i. G. [11.] |
| Ditto New 10 00 |
| 100 Hhambiniday In and Contest of 00 0 0 46 |
| 30 Chastone & Dodworth Cl. & Iron[L.] 27 00 |
| 50 Somerrostro Iron Co. [L.] |
| 100 Beares Water Coal Co. [1.] |
| 100 Ditto ditto New 10 0 0 25 |
| 10 Swansea Valley Steam Coll. Co. [L.]. 6 0 0 |
| 100 Thames Iron Company |
| 25 Ditto B. shares |
| 10 Vancouver Coal [L.] 6 00 11 |
| 100 Vickers, Sons, & Co. [L.] |
| 50 Welsh Ironworks Co. [L.] |
| 10 West Mostyn Coal [L.] (12 p.c.pref.) 8 0 0 12 |
| 5 West Swansea Colliery Co. [L.] 5 0 0 10 Whitehaven from Co. [L.] 10 0 0 |
| 50 Weish Ironworks Co. [L.] |
| 18 0 0 |
| W. GOV. |
| WAGON COMPANIES, |
| 10 Birmingham Wagon Co. [L.] 10 0 0 181/ 10 |

| 10 | Birmingham Wagon Co. [L.] | 10 | 0.0 | 181/ |
|-----|------------------------------------|----|-----|------|
| 10 | Ditto, 2nd issue | 4 | 0 0 | 10.0 |
| 10 | Ditto, pref., 6 per cent | | 0 0 | 1034 |
| 20 | British Wagon Co. [L.] | 10 | 0 0 | 1.0 |
| 10 | Gloucester [L.] | 10 | 0 0 | par |
| 10 | Ditco, 5th issue | 10 | 0 0 | |
| 10 | Met Pail Con and III | | 00 | 136 |
| E | Met. Rail. Car. and Wagon Co. [L.] | 9 | 0 0 | 34 |
| 10 | Ditto, pref., 6 per cent. | 5 | 0 0 | 6 |
| 10 | Midland | 10 | 0 0 | 7 |
| ev. | North Central Wagon Co. | 20 | 0 0 | 271 |
| 5 | Rail. Car. [L.] (Oldbury) | 5 | 00. | 61/ |
| D | Ditto, pref., 6 per cent. | 5 | 00 | BIZ |
| 20 | Shemeld Wagon Co. [L.] | 15 | 0 0 | 91/ |
| 10 | Yorkshire Wagon Co. [L.] | | 0 0 | 416 |
| | | 10 | 0 0 | */8 |
| | | | | - 1 |
| | | | | - 1 |
| | | | | |

TELEGRAPH COMPANIES.

| | | | C 12001 | |
|----------------|---------------------------------------|--------|---------|------|
| "8t." | Anglo-American Brazilian Submarine | 100 | 0 0 | 8714 |
| 20 | Direct United States Cab'e | 20 | 0 0 | 0 % |
| 10 | Eastern | 10 | 0 0 | |
| 10 | East. Exten., Australia and China | 10 | 0 0 | 714 |
| 10 | Great Northern | 10 | 0 0 | 734 |
| 25 | Indo-European | 25 | 0 0 | |
| 10 | Mediterranean Extension | | 0 0 | |
| 8 | Reuters | | 0 0 | 9 |
| 8tk. | Submarine | 100 | 0 0 | |
| 10 | West India and Panama | 10 | 00 | 21/ |
| 20 | Western and Brazilian | 20 | 0 0 | 474 |
| \$ 1000 | Western Union, 7 per cent. Mort. Bone | le \$1 | 0001 | 08 |

MISCELLANEOUS,

| | MISCELLANEOUS, |
|---|--|
| | Stk. Atlantic and Great Western Leased |
| | Lines, Rental Trust 100 0 0 39 |
| | 25 Australian Agricultural |
| | 25 Austral, Mort. Land and Finance [L.] 5 0 0 4M |
| | 10 Avonside Engine [L.] 7 00 5 |
| | Btk. Baltimore and Ohio, 6 per cent 100 0 0104 |
| | 10 Brighton Aquarium [L.] 10 0 0 10% |
| | Stk. Cent. of New Jersey Con. Mort 100 0 0 66 |
| | Stk. Cent. Pacific of Calif., lat Mort. 6 p.c. 100 0 0107 |
| | 25 City of London Real Property [L.] 12 0 0 19 |
| | 25 Copper Miners of Eng. (7 p. c. p. ef.) 25 0 0 |
| | 8 Diamond Rock Boring 4 10 0 3% |
| | 15 English and Foreign Credit 8 0 0 |
| | 16 Fore Street Warehouse [L] 14 00. 9% |
| | 15 Foster, Porter, and Co. [L.] 10 10 0 11 |
| | S Gen. Phos. & Chem. Works Co. [L.] 5 00 |
| | A CALCAMINITY (Par) |
| | o his min Tunner [L.] |
| | If Hudson a Day Company |
| 1 | |
| | |
| 1 | |
| 1 | |
| 1 | |
| 1 | |
| 1 | 7½ Imperial Credit [L.] 710 0 74 Ditto, Surplus Certificate |
| 1 | 8tk. Lehigh Val. Con. Mort., A, 6. p. cent. 100 0 0 100 |
| 1 | 10 Milner's Safe [L.] 10 0 0 1% |
| 1 | 25 National Discount [L.] 8 0 0 9% |
| 1 | Sale W Comt Pail Com Mont & non comt 10 0 0 50 |
| ı | 10 Pawson and Co. [L.] 8 0 0 10 |
| 1 | 50 Peningular and Oriental Steam 50 0 0 38 |
| ı | Stk Pennsyl Gen Mort 6 p cent 1910 100 0 0 105/2 |
| I | Stk Ditto Con Sink Fund & p. ct. 1905 100 0 0 94 |
| Î | Stk Scuttish Aust Investment Company, 100 0 0180 |
| l | Stk Ditto 6 per cent Preference 100 0 0120 |
| ì | 10 Silber Light (ord. sh.) |
| ĺ | 20 Suez Canal shares 20 0 0 |
| I | 12 Telegraph Construc. & Mainte. [L.] 12 0 0 27% |
| I | 5 Ditto, Second Bonus Three per Cents 5 0 0 216 |
| ĺ | 10 Tuarsis Sulpnur and Copper Co 10 0 0 21% |
| I | 8tk. Union Pacific Land Grant, 1st Mort. 100 0 0103 |
| ĺ | Stk. Union Pacific Railway, 1st Mort 100 0 0107 |

London: Printed by RIGHARD MIDDLETON, and publi-HENRY ENGLISH (the proprietors), at their offen, A STREET, E.O. where all communications are require addressed. November 17 1877.